Self-Assessments
on Concept (1.1)

Self-Assessment 1 On Lesson 1

1 (A) Choose the correct answer :

1. Which of the following statements is correct ? .....
   a. Starred agama lizard live in extreme cold weather.
   b. Penguins have no feathers on their feet.
   c. Forest bears blend in with snow throw their white fur.
   d. Caracals have colorful scales to adapt their desert landscapes.
2. The different colors of fur in different types of bears help them to .....
   a. respire in their environments.
   b. adapt their habitats.
   c. communicate with other animals.
   d. look for shade areas.
3. Which of the following sentences doesn't represent the camouflage adaptation ? .....
   a. Dense feathers of penguins.
   b. White fur of polar bears.
   c. Colored scales of some lizards.
   d. Sandy-colored fur of fennec foxes.

(B) Give a reason for the following :

Some types of lizards that live in rocky areas have colorful scales.

.....

.....

2 (A) Put (✓) or (✗) :

1. Bodies of fennec foxes, penguins and caracals are adapted to live in extreme hot climate. ( )
2. Penguins have special blood vessels in their feet that help them survive in polar regions. ( )
3. The brown fur of the polar bear helps it to blend in with snow. ( )

(B) What happens if ...?

Forest bears are coated with white fur.

.....

.....

3 **Look at the opposite figures, then answer the questions below :**

1. Which figure shows the correct structure of blood vessels in the penguin's feet ?

   .....

2. What would happen if the penguin has the structure of blood vessels shown in figure (a) ?

   .....

   .....

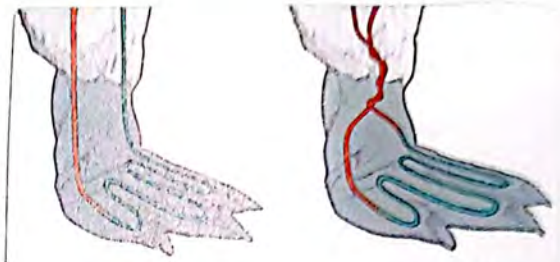


Figure (a) Figure (b)

Self-Assessment 2 till Lesson 2

1 **(A) Complete the following sentences :**

1. White fur of polar bear is considered as ..... adaptation, while the panting in fennec fox is considered as ..... adaptation.
2. Chameleon puffs up its body with air for defense which is considered as ..... adaptation, while its V-shaped feet is considered as ..... adaptation.
3. The leaves of ..... tree grow and gather on the top of its trunk to prevent animals from eating them, while the leaves of ..... tree are hand-shaped leaves.

(B) What happens if ...?

Bull shark has white back and dark belly.

.....

2 **(A) Correct the underlined words :**

1. Polar bear has white fur that helps it blend in with the snow as it sneaks up on its predator. (.....)
2. Bull shark can live in salt water only. (.....)
3. Water lily has wide leaves to absorb a large amount of water. (.....)

(B) Give a reason for the following :

The shape of pine tree leaves is like a needle.

.....

3 **Look at the opposite figure, then answer the following questions :**

1. Give two examples of animals that live in this habitat.

.....

2. Give two examples of plants that live in this habitat.

.....

3. **Put (✓) or (✗) :**

1. Plants of this habitat are characterized by having long thick roots. ( )
2. Plants of this habitat have large wide leaves. ( )

Self-Assessment 3 till Lesson 3

1 **(A) Choose the correct answer :**

1. The trunk in acacia tree stores ..... as the hump in the camel stores .....

a. oil, water. b. water, milk. c. oil, milk. d. water, fat.

2. All of the following sentences are correct about stomach, except .....

a. it has teeth and tongue.
b. it receives the food from esophagus.
c. food changes into soupy liquid inside it.
d. it contains an acid.

3. All of the following organs belong to the respiratory system, except .....

a. nose. b. two bronchi. c. two lungs. d. stomach.

(B) Give a reason for the following :

Saliva is very important in your mouth.

.....

2 **(A) Put (✓) or (✗) :**

1. Caracal and fennec fox can hide in the desert as they have white-colored fur. ( )
2. Bodies of starred agama and panther chameleon are covered with scales. ( )
3. Digestion process begins in the stomach with the help of saliva. ( )

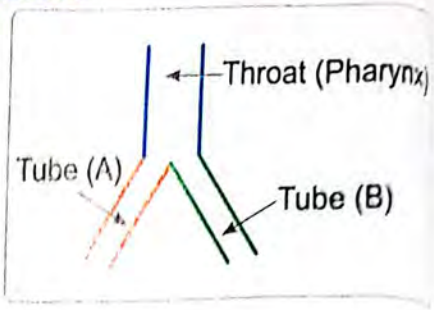
(B) What happens if ...?

The small intestine was not supplied with blood vessels in the human body.

.....

3 **Study the opposite diagram, then answer the questions. Knowing that through tube (A) air passes, while through tube (B) food passes :**

1. Tube (A) represents the .....
2. Tube (B) represents the .....
3. Tube (A) connects throat to the .....
4. Tube (B) connects throat to the .....
5. Tube (A) belongs to ..... system, while tube (B) belongs to ..... system.



Self-Assessment 4

1 **(A) Choose the correct answer :**

1. Air is important for human, fish and animals because .....
   a. it contains carbon dioxide gas that is important for breathing.
   b. it contains carbon dioxide gas that is important for digestion.
   c. it contains oxygen gas that is important for breathing.
   d. it contains oxygen gas that is important for digestion.
2. Cutting down rainforests, may help human to make furniture, but also may cause disappearance of .....
   a. starred agama, b. bull shark.
   c. panther chameleon, d. polar bear.
3. All of the following living organisms need food and can get oxygen gas from air to obtain energy, except .....
   a. fennec fox. b. bull sharks. c. pine trees. d. humans.

(B) Give a reason for the following :

Air pollution is dangerous for humans, while water pollution is dangerous for fish and humans.

.....

.....

2 **(A) Put (✓) or (✗) :**

1. Human can pollute the environment, but he cannot restore it. ( )
2. Both lungs and gills are organs that present in the digestive system of both human and fish. ( )
3. When an ecosystem is completely polluted, no longer organisms can live in it. ( )

(B) Write one animal and one plant that live in each environment of the following :

Environment	Animal	Plant
1. Desert :	.....	.....
2. Rainforest :	.....	.....
3. Polar region :	.....	.....
4. Salt water :	.....	.....

3 Give only one example of structural adaptation in each of the following :

1. Acacia tree : .....

.....

2. Fish : .....

.....

3. Polar bear : .....

.....

Self-Assessment 5 till Lesson 5

1 (A) Cross out the odd word :

1. Frog – Starred agama lizard – Salamander – Toad. (.....)
2. Water lily – Fish – Palm tree – Amphibian. (.....)
3. Golden frog – Panther chameleon – Kapok tree – Acacia tree. (.....)

(B) Give a reason for the following :

Amphibians are endangered species.

.....

.....

2 (A) Write the scientific term of each of the following :

1. A type of living organisms that can breathe in air and in water. (.....)
2. An organ with structural adaptation that enables toad to breathe in water. (.....)
3. The grassland habitat of acacia tree, in which we cannot found amphibians during dry seasons. (.....)

(B) If you are one of the scientists who help amphibians survive. You can do all of the following for their habitats, except .....

a. removing air pollutants.

b. removing water pollutants.

c. removing their natural predators.

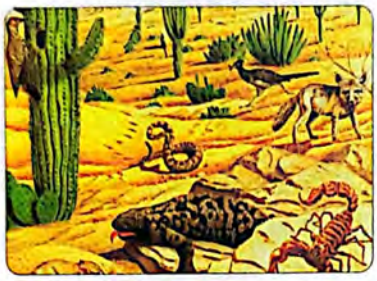
d. removing water from ponds and streams.

(Give a reason for your choice)

.....

.....

3 Look at the following two pictures, then answer the questions [by writing habitat (A) or habitat (B)] :



Habitat (A)

Habitat (B)

1. Starred agama lizard and fennec fox live in .....
2. We can find panther chameleon in .....
3. Amphibians cannot live in .....
4. Yellow body coats is most common in .....
5. Dry seasons is more dangerous for .....
6. Cutting down forest usually occurs in .....
7. The suitable ecosystem for barbary fig is .....
8. Caracal can live in .....
9. Arctic fox cannot be found in .....
10. Kapok tree can grow in .....

Model Exam
on Concept (1.1)

Total mark
15

1 **(A) Complete the following sentences using the words below :** *(5 marks)*

(blood vessels – expands – cool – mild)

1. A burrow is an excellent place for the fennec fox to stay ..... during the day.
2. During exhalation, the diaphragm ..... and moves upward.
3. Savannah is a grassland habitat with a ..... temperature.
4. The ..... in the gills of fish carry oxygen gas to the rest of the body.

(B) Give a reason for the following :

Starred agama lizard and golden frog are two different species.

.....

.....

2 **(A) Put (S) in front of structural adaptation and (B) in front of behavioral adaptation for each of the following statements :** *(5 marks)*

1. Bull shark can hunt in salt water and fresh water. (.....)
2. Black bear has dark fur. (.....)
3. Acacia tree uses wind to send messages. (.....)
4. Blood vessels in the penguin's feet. (.....)

(B) What happens if ...?

One of the organs of the digestive system is absent.

.....

3 **(A) Choose from column (B) what suit them in column (A) :** *(5 marks)*

(A) Living organism	(B) Habitat
1. Lizard	a. Land and water
2. Fish	b. Desert
3. Frog	c. Water
4. Polar bear	d. Arctic region

1. ..... 2. ..... 3. ..... 4. .....

(B) Write the scientific term of each of the following :

1. Little air sacs surrounded by blood vessels in the respiratory system. (.....)
2. A fox that changes its fur color between winter and summer seasons. (.....)

Model Exam 1 on Concept (1.1)

Total mark
15

1 (A) Choose the correct answer : *(5 marks)*

1. Both golden frog and polar bear, ...
   a. live in the same habitat. b. can breathe in oxygen gas in water.
   c. have the same body coat. d. are living organisms.
2. The color of the body coat of arctic fox changes according to the season, this is considered as .....
   a. change of the way of breathing. b. a type of structural adaptation.
   c. change of the way of drinking. d. a type of behavioral adaptation.
3. In dry desert, most plants need ..... to get water from the sandy soil.
   a. long trunk b. long roots
   c. long branches d. long leaves
4. The food moves into the stomach through the ..... *(Alex. 2023)*
   a. esophagus. b. trachea.
   c. small intestine. d. tongue.

(B) Give a reason for the following :

Gills are unique structural adaptation in fish.

.....

.....

2 (A) Put (✓) or (✗) : *(5 marks)*

1. Both salamander and fish can breathe in through lungs. ( )
2. In polar environment, the sandy-colored fur of caracal helps it blend in with snow. ( )
3. Panther chameleon and agama lizard can use one of their eyes for searching for food and the other one to look out for danger. ( )
4. Adaptation to store water is an important character for plants that live in dry desert environment. ( )

(B) What happens if ... ?

The diaphragm moves upward during exhalation. *(Minia 2023)*

.....

.....

3 (A) Correct the underlined words : *(5 marks)*

1. Amphibians live in dry environments. (.....)
2. Reptiles like toads have two different ways for breathing. (.....)
3. Fish use gills to take in carbon dioxide gas out of the water. (.....)
4. Mangrove tree has wide leaves to absorb a large amount of sunlight. (.....)

(B) Give only one example of behavioral adaptation in bull shark.

.....

Model Exam 2 on Concept (1.1)

Total mark
15

1 (A) Write the scientific term of each of the following : *(5 marks)*

1. It covers the body of some types of bears to keep their bodies warm and to blend in with snow. (.....)
2. A feature in bull shark, in which the lower surface of its body is lighter than its upper surface. (.....)
3. A plant lives in salt water environment and it has long roots to resist water waves. (.....)
4. An organ through which solid wastes of digestion leave the body. (.....)

(B) Cross out the odd word :

1. Penguin – Acacia tree – Pine tree – Polar bear. (.....)
2. Panther chameleon – Fennec fox – Bull shark – Agama lizard. (.....)

2 (A) Choose the correct answer : *(5 marks)*

1. The stomach has an acid that helps in .....
   a. crushing of food.
   b. digestion of food.
   c. absorption of digested food quickly.
   d. absorption of water from undigested food.

2. Water lily has wide floating leaves to .....
   a. prevent the loss of water. b. resist the water waves.
   c. absorb a large amount of sunlight.
   d. absorb a large amount of water.

3. All of the following living organisms live in desert, except .....
   a. palm tree. b. pine tree.
   c. starred agama lizard. d. fennec fox.

4. Amphibians absorb oxygen directly from water by their .....
   a. skin. b. gills. c. lungs. d. nose.

(B) Correct the underlined words :

1. Gills are unique behavioral adaptation that allow fish to breathe under water. (.....)

2. Small intestine is a long muscular tube that moves food down into the stomach. (.....)

3 (A) Look at the opposite figures, then answer the questions below :

(1) Which figure represents inhalation ? (.....)

(2) Which figure represents exhalation ? (.....)

(3) In figure (a), ... muscle contracts and the size of chest .....

(4) In figure (b), the air that comes out is rich in ..... gas .

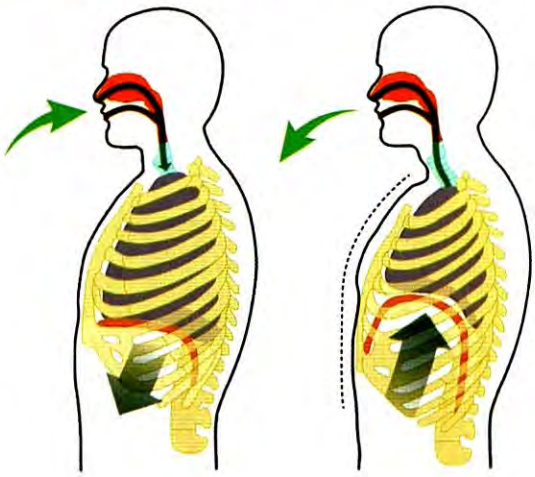


Figure (a) Figure (b)

(B) Give a reason for the following :

The human body is made up of different systems.

.....

Self-Assessments
on Concept (1.2)

Self-Assessment 6 On Lesson 1

1 (A) Complete the following sentences :

1. Dolphins use ..... property that help them to find their food.
2. Human use senses of ..... and ..... when watching a football game at television.
3. Chameleons use their ..... to see the food, while they have a very long ..... to help them catch and taste insects.

(B) Give a reason for the following :

Dolphins can locate their preys under water.

.....

.....

2 (A) Put (✓) or (✗) :

1. The owl uses the sense of touch to hunt its prey at night. ( )
2. Fox has good senses of hearing and sight so that it can avoid danger. ( )
3. A dog uses its sense of smell and sight to identify its owner. ( )

(B) Look at the opposite figure, then answer the following questions :

1. Mention the three senses that you use to identify the food in this picture.

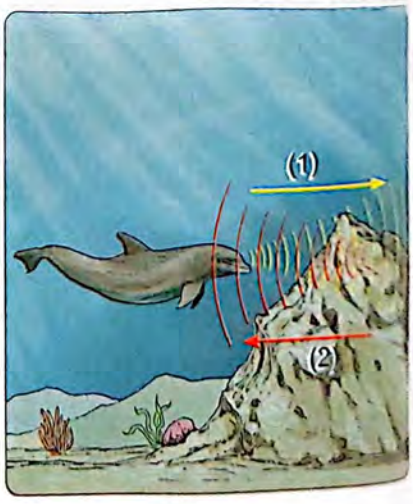
.....

2. What is the sense used to tell if this food has too much salt or not ? And which organ is responsible for it ?

.....

3 Observe the following figure, then choose the correct answer :

1. Arrow number (1) represents .....
   a. sound waves produced by the dolphin.
   b. the echo bounced back from the rock.
   c. light waves produced by the dolphin.
   d. light waves produced by the rock.
2. Arrow number (2) represents .....
   a. sound waves produced by the dolphin.
   b. the echo bounced back to the dolphin.
   c. light waves produced by the dolphin.
   d. light waves bounced back to the dolphin.



3. The dolphin uses this property to .....
   a. see objects under water.
   b. see objects above the water surface.
   c. locate objects and living organisms on the beach.
   d. locate objects and living organisms under water.
4. The sense used by the dolphin in the previous picture is the .....
   a. smell. b. taste. c. hearing. d. sight.

Self-Assessment 7 till Lesson 2

1 (A) Choose the correct answer :

1. An animal that flies and depends on the bouncing of sound to catch its preys is a/an .....
   a. owl. b. snake. c. bat. d. dolphin.
2. ..... can detect and amplify distant sounds due to their heads that look like bowls.
   a. Owls b. Dogs c. Mongooses d. Chameleons
3. Bats and dolphins are animals that greatly different in size, but they have one thing in common as they both .....
   a. live in the same environment.
   b. feed on the same prey.
   c. depend on echolocation property in their hunting.
   d. depend on gills to breathe.

(B) Give a reason for the following :

The nerves spread across the whole body.

.....

.....

2 (A) Put (✓) or (✗) :

1. A dolphin produces sound waves so it can locate its prey through echo. ( )
2. The Egyptian mongoose makes a group of sounds that bounce back to it when it hits a wall or its prey. ( )
3. Nocturnal animals become active at morning to look for their food. ( )

(B) What happens if ...?

The hind legs of jerboa are short.

.....

.....

3 Correct the underlined words :

1. Nerves are important parts of the digestive system. (.....)
2. The jerboa's reaction is very slow. (.....)
3. The bat can rotate its head in all directions. (.....)

Self-Assessment 8 till Lesson 3

1 (A) Write the scientific term of each of the following :

1. The organ which receives and processes the messages sent from the sensory receptors that are found in a jerboa's ears. (.....)
2. A system that works inside the body to keep the organism away from danger. (.....)
3. The time taken by an organism's body to react to different information around it. (.....)

(B) What happens if ...?

The bat produces sound waves that hit an insect.

.....

2 (A) Choose the correct answer :

1. The nervous system of..... , such as elephants and dogs, consists of brain, spinal cord and nerves.
   a. rodents b. birds c. mammals d. reptiles
2. ..... are nocturnal animals with bowl-shaped faces.
   a. Owls b. Dogs c. Mongooses d. Chameleons
3. If you are in your room, you can tell what kind of food is being prepared in the kitchen by using your sense of .....
   a. sight. b. hearing. c. touch. d. smell.

(B) Give a reason for the following :

Dolphins have sharp sensory organs.

.....

.....

3 Order the following statements that illustrate how the rabbit's brain processes running away from the fox before predating it :

(.....) The rabbit's brain processes information.

(.....) The rabbit's nerves sent a signal to the brain.

(.....) The rabbit's brain sent a signal to its feet muscles to escape.

(.....) The rabbit saw a fox moving towards it to devour it.

Self-Assessment 9 till Lesson 4

1 (A) Choose the correct answer :

1. In an animal, if the reaction time is very long, so that the animal
   a. will survive. b. will reproduce.
   c. will be at risk of extinction. d. will run away quickly.
2. The nervous system plays an important role in
   a. obtaining energy from food.
   b. obtaining energy from oxygen.
   c. absorbing food from small intestine.
   d. responding to different stimuli.
3. If the sensory receptors in the tongue are damaged completely, this person's ability to taste food will .....
   a. increase. b. disappear. c. decrease. d. not change.

(B) Give a reason for the following :

An owl can detect and amplify distant sounds and direct them to its ears.

.....

.....

2 (A) Correct the underlined words :

1. Humpback whales produce low-pitched sound in mating season. (.....)
2. The soldier ants defend their community depending on their hearing sense. (.....)
3. The bats depend on echolocation to find insects at night and that is considered as a behavioral adaptation. (.....)

(B) What happens if ...?

The cane of a blind person picks up echo.

.....

3 Place each of the following animals in front of the sentence that describes it :

(Dolphins – Owls – Jerboas – Bats)

1. They can fly but cannot see well in the dark. (.....)
2. They are rodents that have long hind legs. (.....)
3. They are nocturnal birds with bowl-shaped faces. (.....)
4. They live in water and rely on echolocation to find food. (.....)

Model Exam 1 on Concept (1.2)

Total mark: 15

1 (A) Choose the correct answer : *(5 marks)*

1. Senses that can distinguish between milk and water are .....
   a. taste and sight.
   b. smell and hearing.
   c. sight and hearing.
   d. taste and hearing.

2. Bats can fly without hitting walls because they can .....
   a. hear the echo reflected from them.
   b. touch them.
   c. see them clearly at night.
   d. smell them.

3. When your hand touches the spines of a cactus plant, it is withdrawn in .....
   a. one minute.
   b. two minutes.
   c. more than one hour.
   d. less than one second.

4. Brain, nerves and sensory receptors are parts of the nervous system, where .....
   a. only sensory receptors work individually.
   b. only the brain works individually.
   c. they work together with each other.
   d. they work separately from each other.

(B) Give a reason for :

The Egyptian jerboa has long hind legs.

.....

2 (A) Correct the underlined words : *(5 marks)*

1. When you hear the fire alarm, your <u>eyes</u> send a signal to the brain. (.....)
2. The <u>spinal cord</u> is responsible for processing the information coming through ears. (.....)
3. The dog has sharp senses of smell and <u>taste</u>. (.....)
4. The sense of sight in bats is <u>stronger</u> than that in owls. (.....)

(B) What happens if ... ?

Owls cannot turn their heads in all directions.

.....

.....

3 **(A) Write the scientific term of each of the following :** *(5 marks)*

1. A living organism that can fly and depend on the echolocation property to get information about its surroundings in the dark. (.....)
2. A season in which the humpback whale produces low-pitched sound. (.....)
3. Sense organ that can detect light energy. (.....)
4. A group of messages sent by nervous system that are often so fast that you cannot realize them. (.....)

(B) Mention two devices that humans can use to communicate with their surroundings, where their ideas are inspired from some animal adaptations. And then mention the name of these two animals.

Devices	Inspired from the adaptation of
1.	.....
2.	.....

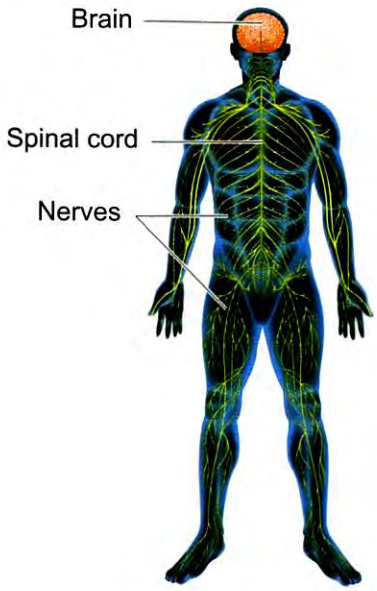
Model Exam 2
on Concept (1.2)

Total mark
15

1 (A) Write the scientific term of each of the following : *(5 marks)*

1. The time taken by an organism's body to respond to different information around it. (.....)
2. A sense by which you can recognize the sour flavor of vinegar. (.....)
3. A system that controls all the body functions and nerves are one of its parts. (.....)
4. The organ which receives and processes the messages sent from the sensory receptors that are found in a jerboa's ears. (.....)

(B) Look at the opposite figure that shows the structure of the human nervous system, then answer the questions :



1. Which part spreads all around the human body ?

   .....

2. Which part is found inside the backbone of the human body ?

   .....

3. Which part represents the main control center in the human body ?

   .....

2 (A) Complete the following sentences : *(5 marks)*

1. The ..... is the organ that sends information to the brain when you smell the scent of a perfume.
2. Ants use their sense of ..... to communicate with each other.
3. Hopping of the Egyptian jerboa in zigzag patterns is considered as a ..... adaptation.
4. Owls can detect the places of their preys by using the super senses of ..... and .....

(B) Order the following statements which explain how the brain processes information :

(.....) The brain sends a signal to the muscles to move to start the race.

(.....) Hearing the whistle sound to start the race.

(.....) The brain processes information.

(.....) The nerves of the ears send a signal to the brain.

3 (A) Put (✓) or (✗) : *(5 marks)*

1. Animals use technological systems as we do. ( )
2. Humpback whales communicate with each other through flashing. ( )
3. The sound pitch from a blind person's cane is too high for humans to hear. ( )
4. Echolocation is a type of communication between owls. ( )

(B) What happens if ... ?

The amount of food in ants colony decreases.

.....

Model Exam

on Concepts (1.1) & (1.2)

Total mark: ___ / 15

1 (A) Put (✓) or (✗) : *(5 marks)*

1. Hand-shaped leaves of kapok tree is considered as a structural adaptation. ( )
2. Humpback whales produce high-pitched sound in summer. ( )
3. Amphibians include frogs, starred agama and salamanders. ( )
4. The brain can process what we hear from our environment. ( )

(B) Cross out the odd word :

1. Nerves – Small intestine – Brain – Spinal cord. (.....)
2. Stomach – Diaphragm – Esophagus – Large intestine. (.....)

2 (A) Choose from columns (B) and (C) what suit them in column (A) : *(5 marks)*

(A) Living organism	(B) Species	(C) Habitat
1. Bull shark	a. Reptile	A. Savannah
2. Starred agama	b. Amphibian	B. Salt and fresh water
3. Acacia	c. Fish	C. Wet environment
4. Frog	d. Plant	D. Desert environment

1. ..... → ..... 2. ..... → ..... 3. ..... → ..... 4. ..... → .....

(B) Give a reason for the following :

The nurse ants send smelly message to scout ants.

.....

.....

3 (A) Complete the following sentences using the words below : *(5 marks)*

(penguin – reflex – reaction time – oxygen gas)

1. Moving your hand away when touching a very hot cup of tea is called .....
2. Living organisms need food and ..... to obtain energy.
3. Among animals that can live in polar environment are ..... and polar bear.
4. The time taken by a boy to move quickly his hand away, when he touches the spines of a cactus plant is called .....

(B) Correct the underlined words :

1. Fish use lungs to take oxygen out of the water. (.....)
2. The scout ants use smelly message to communicate if there is danger nearby. (.....)

Unit 1 Concept 1

Adaptation and Survival

Adaptations They're the characteristics that help living organisms survive and reproduce in their ecosystems.

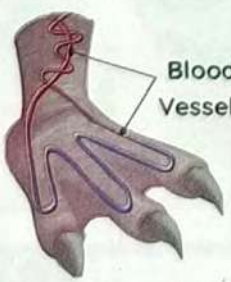
- If a living organism adapts, it will survive and reproduce.
- If a living organism can't adapt, it will die or go extinct.

P.O.C	1 Structural (Physical) Adaptation	2 Behavioral Adaptation
Definition	• It's a change that happens in the structure of the living organism's body.	• It's a change that happens in the behaviors (acts) of a living organism.
Examples	• The blood vessels in a penguin's feet • The thick fur of the polar bear	• The desert lizard looking for shade • Bird's migration

1 Adaptation in Animals

Penguin
Habitat (Antarctica)

- A penguin has a thick fat layer and dense feathers on its body.
- To keep its body warm in the cold weather.



- A penguin's feet don't have feathers or a fat layer, but a penguin can stand on ice all day.
- Because the blood vessels that carry warm blood from its body weaves around the blood vessels that carry cold blood from its feet.
- Note:
  - Warm blood moves down from its body to its toes.
  - Cold blood moves up from its toes to its body.

		Ecosystem Habitat	Way of Adaptation
1 Polar Bear		Arctic regions	It has thick fur. To keep its body warm. It has white fur. To blend in with the snow to sneak up on the prey.
2 Brown Bear and Black Bear		Forests	They have dark fur. To hide among trees during hunting.
3 Caracal and Fennec Fox		Deserts	They have tan-colored (brown) fur. To hide and blend in with the desert environment.
4 Lizards		Deserts between colorful rocks	They have colorful scales. To hide among the rocks in the desert.

Camouflage It is a type of adaptation that some animals use to hide from predators or sneak up on prey by blending in with the surrounding environment.

Bull Shark
Lives in fresh and salt water

Structural Adaptation	• It uses a camouflage strategy called "countershading", as it has a dark back and a white belly. To sneak up on the prey. • It has sharp teeth. To cut the prey's flesh.
Behavioral Adaptation	• It can hunt in salt and fresh water. • It can hunt at day and night to surprise its prey. • It feeds on different types of food (varied diet). Note: In fresh water, a bull shark has less competition for finding food.

		1 Fennec Fox (Habitat: Desert)	2 Arctic Fox (Habitat: Tundra)
			In Winter  In Summer 
Structural Adaptation	Fur (coat)	It has tan (brown) fur. To hide in the desert environment.	It has a thick fur coat. To help it stay warm. It has white fur in winter and brown fur in summer. To hide from the prey in any season.
	Ears	It has extra-large ears. To lose heat and cool its body.	It has short ears and legs. To help it stay warm.
Behavioral Adaptation		It pants like dogs. To cool its body.	
		They hide in burrows to overcome extreme climate, where the fennec fox stays cool in burrows on sunny days, and the Arctic fox stays warm in burrows at night.	
		They eat different kinds of food (varied diet), such as insects, fruits, plant roots and prey remains. Because it is hard to find any food in the desert.	

Panther Chameleon

Lives in tropical rainforests

Structural Adaptation	• It has bright-colored scales. - To hide and blend in with the surrounding environment. • Its eyes move in opposite directions independently. - One eye searches for food and the other eye to avoid danger. • It has V-shaped feet and a tail like a hand. - To hold the branches of trees tightly.
Behavioral Adaptation	In danger, it scares its attacker by: - Puffing up its body with air. - Opening its mouth wide. - Changing its scales color.

2 Adaptation in Plants

- Plants can grow everywhere, and they have structural and behavioral adaptations, like animals, that help them survive in different environments.

Plant	Habitat	Structural Adaptation	Reason
1 Water Lily	Wetland (Fresh water)	• It has wide leaves that float on the water.	• To absorb a lot of sunlight.
2 Palm Tree	Desert	• It has thick roots and narrow leaves.	• To resist the strong wind.
3 Pine Tree	Snow	• It has a triangular shape and short branches.	• To allow the snow to slide easily over the branches without breaking them.
		• It has needles instead of leaves.	• To prevent water loss.
4 Mangrove Tree	Salt water	• It has long and strong roots.	• To resist the water waves.
5 Barbary Fig	Desert	• It has sharp spines and a tough outer cover.	• To prevent animals from eating its leaves and fruits.

P.O.C.	Acacia Tree 	Kapok Tree 
Habitat	Savannah grassland (in Africa) • Grassland habitat • The temperature is mild. • Lack of water (drought conditions)	Amazon rainforests (in Brazil) • It has soggy soil. • It is characterized by the strong wind. • It's easy to find water as there's plenty of it.
Shape	Both of them are "Umbrella-shaped trees."	
	Structural Adaptation	
Roots	• Taproot roots (grow downwards) - It reaches 35 meters below the surface. To search for water in deep soil.	• Buttress roots (grow upwards) - To fix the tree firmly in the soggy soil.
Trunk	• Its trunk stores water as camels store fats in their humps. • It has a too long trunk. (Only a giraffe can reach its leaves.)	• The length of the tree exceeds 70 meters to reach the sunlight.
Leaves	• Tiny leaves to hold water. • Sharp spines to protect it.	• Hand-shaped leaves with narrow parts To allow the wind to move gently without tearing them.
	Behavioral Adaptation	
	When a giraffe eats its leaves: • It produces poison. • It sends smelly messages to nearby trees to start producing the same poison.	It sends messages through the wind, such as: • Its delicious-smelling flowers • The tree's fluffy yellow seeds

Human Digestive System

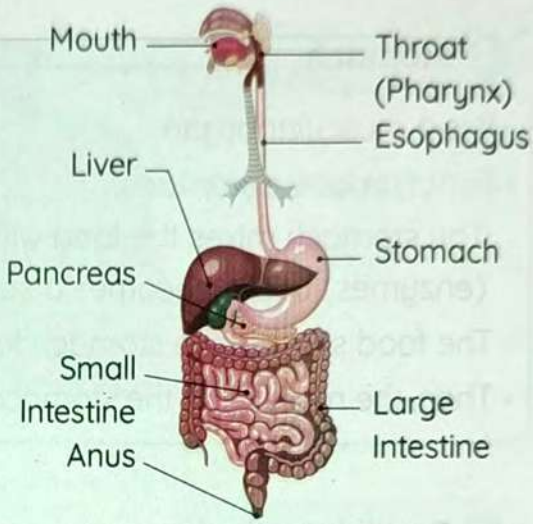
Digestion • It's the process of breaking down food into the simplest form to provide the body with nutrients.

Function of the digestive system:

The digestive system breaks down the food, so the body can use it to get energy.

Important Note:

- The digestive system starts with the mouth and ends with the anus.



Digestion Process Pathway:

Mouth → Throat → Esophagus → Stomach → Small Intestine → Large Intestine → Anus

Pancreas and liver pour their juices.

How does the digestive system work?

1 Mouth

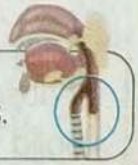
- Digestion of food starts in the mouth.

Teeth	• They crush (break) the food during chewing.
Saliva	• A liquid substance that moistens the food. • It breaks down food chemically.
Tongue	• It mixes the crushed food with saliva.

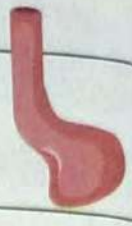
- Chewing food breaks it up mechanically.
- The saliva breaks down the food chemically.

2 Pharynx (Throat)

- When you swallow, your throat pushes the food into the esophagus.



3 Esophagus

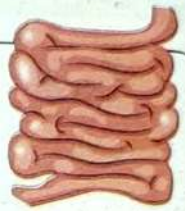


- It is a long muscular tube that moves the food down into the stomach.

4 Stomach

- It is a muscular organ.
- Function of the stomach:
  The stomach mixes the food with the acidic and digestive juices (enzymes) until it becomes a soupy liquid.
- The food stays in the stomach for a few hours.
- Then, the muscles of the stomach move the food into the small intestine.

5 Small Intestine



- It's a long, winding tube. (More than six meters long)

Function of the liver and pancreas:

- They pour juices into the small intestine that help break down food into nutrients.

Function of the small intestine:

- The nutrients from the food are absorbed through the walls of the small intestine to enter into the tiny blood vessels.

Then:

- The blood carries nutrients to all body parts.
- Undigested food flows into the large intestine.

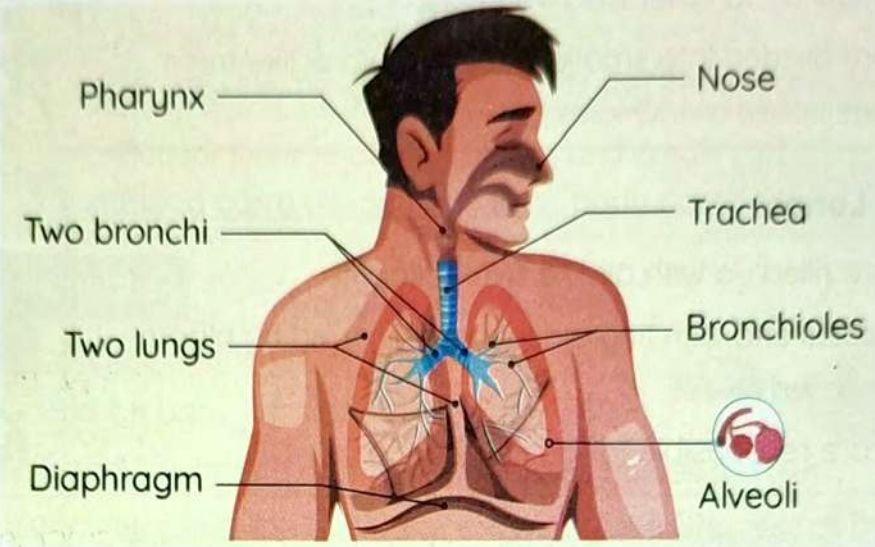
6 Large Intestine

- It's a tube that starts from the end of the small intestine and ends with the anus.

Function of the large intestine:

- It absorbs water from the undigested food, so that they become solid waste.
- Solid waste leaves the body through the anus.

Human Respiratory System

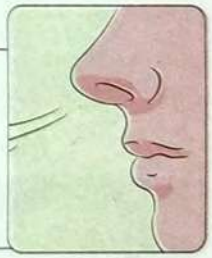


Respiratory Process Pathway:

Nose → Pharynx → Trachea → Two Bronchi → Bronchioles → Alveoli

How does the respiratory system work?

1 Nose:

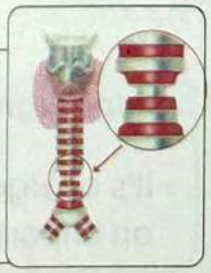


- It is the first organ of the respiratory system.
- Air enters the body through the nose and mouth.

2 Throat (Pharynx):

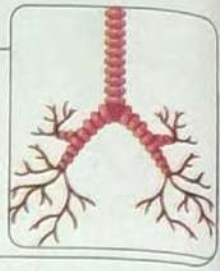
- It allows air to pass to the trachea.

3 Trachea:



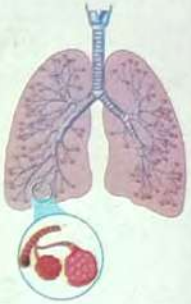
- It's a tube that allows air to pass to the two lungs.
- Inside the lung, it is divided into two bronchi at its end.

4 Two Bronchi:



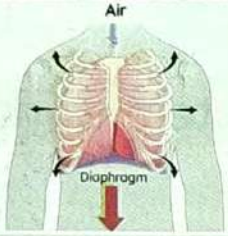
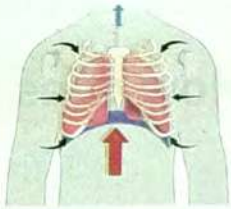
- They allow air to enter the two lungs.
- They are divided into smaller tubes that look like trees' branches called bronchioles.

5 Two Lungs:



- They are filled up with air like two balloons.
- Bronchioles end with tiny air sacs surrounded by blood vessels called alveoli.
- Alveoli are responsible for gas exchange.

Respiration includes

Inhalation Process "Pulling the air in"	Exhalation Process "Pushing the air out"
	
Diaphragm	
Moves downward (Shrinks or contracts)	Moves upwards (Relaxes or expands)
Chest Size	
Increases (Enlarges)	Decreases (Becomes narrower)
Type of Air	
Air rich in oxygen gas enters the lungs.	Air rich in carbon dioxide gas is expelled out the lungs.

Diaphragm:

- It's a large muscle at the base of your ribs that has an important role during inhalation and exhalation.

	Human	Fish
Differences	Humans have lungs. So, they live on land.	Fish have gills. So, fish live underwater.
Similarities	• Both of them inhale oxygen gas and exhale carbon dioxide gas. • Blood carry oxygen gas to all body parts.	

How do fish breathe?

- Fish have gills to breathe underwater.
- Gills are found on both sides of a fish's head.

1. Water enters the mouth of a fish and passes across the gills.
2. The blood vessels in the gills carry oxygen gas to the rest of the body, and release carbon dioxide gas.

Amphibians

- They are small animals that live in moist environments (rainforests – streams – ponds) such as:

Frogs 

Toads 

Salamanders 

Respiration in amphibians

On Land

- They can breathe through their lungs (like humans).

In Water

- They can also extract oxygen from water using their skin. (Structural Adaptation)

- Amphibians are covered with wet skin that water and gases can pass through.
- Amphibians are very sensitive to any environmental pollution.

Factors that cause extinction of amphibians:

1. Air pollution
2. Water pollution (Viruses in water)

Human activities that change the environment

1. Cutting down forests
2. Plowing grasslands or clearing lands
3. Building communities
4. Air pollution (Cars exhausts and factory pollution)

People living in cities are exposed to a high level of air pollution that causes:

Lung damage	Asthma	Heart problems
		

5. Water and soil pollution (Dumping waste in waterways or soil)
6. Introducing plants and animals too an ecosystem that they were never a part of

Living organisms are affected by changes in the ecosystem.

Animals	Some animals can survive by moving to another ecosystem.
Plants	Plants must rely on their seeds landing in a better place for them to survive and grow.
Humans	1. Air pollution (smog) makes it hard for humans to breathe. 2. Water pollution makes it hard for humans to find clean water. 3. Soil pollution makes the crops not grow.

The role of humans to help restore the ecosystem:

1. Replanting cleared forests
2. Removing air and water pollutants
3. Preserving native plants and animals

Unit 1 Concept 2

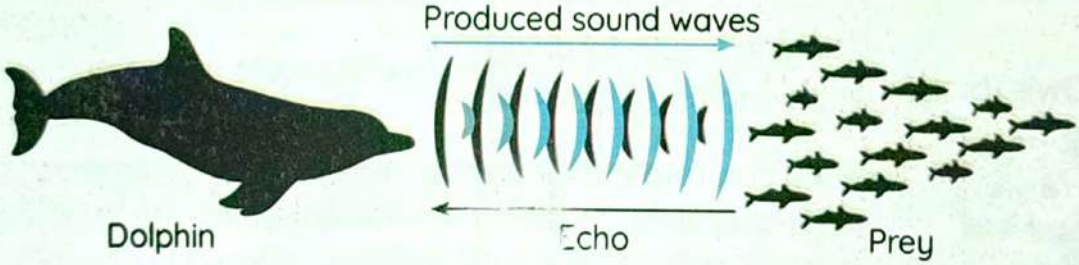
Senses at Work

- **Animals have sharper senses than humans to:**
  1. Adapt to the environment.
  2. Search for food.
  3. Protect themselves.
  4. Communicate together.

Egyptian Mongoose

- It communicates with other mongooses by producing sounds like chatter to move and search for food.

Dolphins



- **Dolphins** uses a **property** known as "echolocation" that depends on "echo" to locate their preys and objects in the dark water.

How do dolphins locate things?

1. Dolphins produce sound waves through the water.
2. When these waves hit any object, they return to the dolphins as an echo.
3. Dolphins use their sharp hearing sense to detect echoes.

Nocturnal Animals

- Some animals are active at night and are known as "nocturnal animals."

Why do nocturnal animals hunt at night?

1. The nocturnal animal may live in a hot region, so it prefers to look for food at night.
2. Some prey are only available at night.
3. Some animals depend on complete darkness to surprise their prey.

Nocturnal Animal	Adaptation	Reason
1 Bats (mammals) 	• Bats can't see in the dark. • They use echolocation and their super hearing sense.	• To locate their prey (insects).
2 Owls (birds) 	• They have extraordinary sight and hearing senses.	• To locate their prey.
	• They can rotate their heads in all directions.	• To search for the prey everywhere.
	• They have bowl-shaped faces and feathers in their heads.	• To detect distant sounds and quiet movements.
3 Jerboas (Desert rodents) 	• They have large ears.	• To help them hear the noise of nearby moving snakes.
	• Their feet and toes have hair.	• To grip the sand when they jump in zigzag paths.
	• They have long hind legs.	• To enable them to jump for long distances.

Nervous System

- Mammals, such as humans, elephants, and dogs have the same nervous system.
- The five sensory organs (eyes, nose, ears, tongue, and skin) are part of the nervous system.
- The components of the nervous system are connected together by nerves.

Structure:

Brain

The main control center of the body.

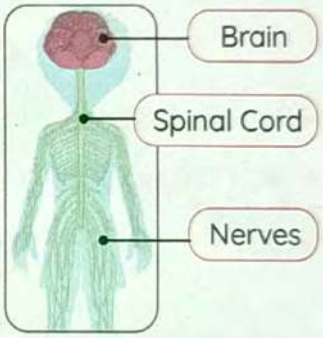
Spinal Cord

It carries messages from the brain to the body, and vice versa.

Nerves

They carry messages from the brain to the spinal cord and other body parts, and vice versa.

- The brain is connected to the spinal cord by nerves that pass through the backbone.
- The spinal cord branches are distributed through all body parts.
- Some nerves are connected directly to the brain, such as the eyes' nerves.



Importance of the nervous system

1. Gathering information about what is happening inside or outside the body.
2. Understanding what this information means.
3. Telling the body what to do.

How does the nervous system work?

1. The sensory receptors near the organs (eyes - ears - nose - tongue - skin) gather information about what's happening inside and outside your body.
2. The nerves carry the information from the sensory receptors to the brain.
3. The brain processes this information and translates it.
4. The brain sends a response to the body to tell it what to do.

Reflex action • It's a type of messages that are so fast you are barely aware of them.

Examples
- You move your hand away when you touch a hot object.
- You blink your eyes when something comes near them.

Reaction time • It's the time taken by an organism's body to respond to danger and move away from it.

When a girl touches the spines of a cactus plant, she will withdraw her hand quickly in less than one second.

When a jerboa hears a snake moving nearby:
- The sensory receptors in its ears send a message through the nerves to the brain.
- The brain translates this information and gives a response by alerting its legs to jump.
- The jerboa's strong hopping legs start to jump away to escape from danger in less than one second.

1 Human Communication

- People first started sharing information using written symbols.
- Technology systems allow us to call, text, and send email messages over great distances.

2 Ant Communication

- Ants live in colonies that contain thousands of individuals.
- Ants use their sense of smell to communicate.
- Ants have developed systems that help them divide their work.
- Groups of ants within a colony have different roles.

1 Nurse Ants — **Nurse ants send strong smelly messages.** GR To alert scout ants that responsible for locating food.

2 Scout Ants — They search for food and locate it.

3 Soldier Ants — They use smells to communicate if there is danger nearby.

3 Humpback Whales Communication

- They sing a wide range of tones and a series of songs to communicate.
- The songs of humpback whales have different sound pitches depending on the season.
- Winter is considered the mating season.
- Summer is considered the feeding season.

Notes:

- A man has a rough voice. (Low-pitched sound)
- A woman has a sharp voice. (High-pitched sound)

4 Bats

- Bats also use sound to get information about their surroundings.
  1. A bat produces a high-pitched sound.
  2. The sound hits the object and reflects back.
  3. The bat hears the echo (reflected sound).
  4. The bat locates the object nearby.

Cane (Bat-Inspired Technology)

- Scientists created a cane that emits high-pitched sounds to help blind people detect their surroundings.
  1. As a blind person walks, a special cane picks up the echo of the high-pitched sounds.
  2. The echo is turned into vibrations that the person can feel using his/her thumb.
  3. These vibrations tell the blind person about nearby bodies.

Definitions

Unit 1 Concept 1

Adaptations	They are characteristics that help living organisms to survive and reproduce in their ecosystem.
Habitat	It's the place (environment) where the living organism lives.
Structural adaptation	It's a change that happens in the structure of the organism's body.
Behavioral adaptation	It's a change that happens in the behavior of an organism.
Camouflage	It's a type of adaptation that animals use to hide from predators or to sneak up on the prey.
Countershading	It's a camouflage strategy in which the bull shark has a dark back and a white belly.
Migration	It's a behavioral adaptation where some birds travel for long distances at a certain time of the year.
Predator	It's an animal that hunts or eats another animal.
Prey	It's an animal that is hunted or eaten by another animal.
Blood vessels	They weave around each other in a penguin's feet.
Penguin	It's a non-flying bird that has a thick fat layer and dense feathers on its body.
Camel	It's an animal that stores fats in its hump to adapt to the desert environment.
Caracal	It's a cat with tan-colored fur that lives in the desert habitat.
Polar bear	It's a bear that has white thick fur and lives in polar regions.
Black (brown) bear	It's a bear that has dark fur and lives in forests.
Fennec fox	It's a fox that has tan (brown) fur and lives in deserts.

Arctic fox	It's a fox that has white fur in winter and brown fur in summer and lives in tundra.
Bull shark	It's an organism that uses countershading strategy to hunt.
Agama lizard	It's a lizard with colorful scales that adapted to live in the desert.
Panther chameleon	It's a lizard that can change the color of its scales and adapted to live in tropical rainforests.
Amazon rainforest	It is a rainforest that is characterized by strong wind and soggy soil.
Savannah	It is a grassland habitat that has drought conditions.
Kapok tree	It is a terrific tree that grows in Amazon rainforests in Brazil.
Acacia tree	It is a terrific tree that adapted to survive in drought environment in savannah grasslands.
Taproot roots	They're very long roots that grow directly downward in acacia trees.
Buttress roots	They're wide and large roots that fix kapok trees firmly to the soggy soil.
Pine tree	It's a tree that adapted to survive in snow and has a triangular shape.
Water lily	It's a tree that has wide leaves floating on water to absorb sunlight.
Mangrove tree	It's a tree that grows in a salt water and has a strong, long root.
System	It's a group of organs that work together to perform a job (function).
Digestion	It's the process of breaking down food into the simplest form to provide the body with nutrients.
Digestive system	It's the body system that breaks down food into tiny pieces, so the body cells can use them for energy.
Mouth	It's the organ where the digestion of food starts.

Teeth	It's the structure that crush (break) the food during chewing.
Tongue	It's a structure inside the mouth that mixes the crushed food with saliva.
Saliva	It's a liquid substance inside the mouth that moistens food.
Pharynx	- It's an organ that exists in both the digestive and respiratory systems. - It's a common passage for both food and air. - It's an organ that pushes the food into the esophagus. - It's an organ that pushes air into the trachea.
Esophagus	It's a long muscular tube that moves the food down into the stomach.
Stomach	It's a muscular organ that mixes the food with acidic and digestive juices (enzymes) until the food becomes a soupy liquid.
Small intestine	It's an organ where nutrients from the food are absorbed through its walls.
Large intestine	It's an organ that absorbs water from the undigested food to become solid waste.
Anus	The solid waste leaves the body through it.
Respiratory system	It is the system responsible for breathing (respiration).
Respiration	It's the process of inhalation "pulling the air in" and exhalation "pushing the air out".
Inhalation	It's the process of pulling the air in the body.
Exhalation	It's the process of pushing the air out of the body.
Nose	It is the first organ of the respiratory system through which air enters the body.
Trachea	It allows air to pass to the two lungs and it is divided into two bronchi at its end.

Two bronchi	They allow air to enter the two lungs and they are divided into smaller tubes that look like tree's branches called bronchioles.
Two lungs	They have two balloon shapes and they are responsible for gas exchange through a structure called the alveoli.
Alveoli	There are tiny air sacs surrounded by blood vessels where oxygen is transferred through them to the blood stream.
Diaphragm	It's a large muscle that has an important role during inhalation and exhalation.
Oxygen	It's the gas needed for respiration for all living organisms.
Carbon dioxide	It's the gas expelled out of the body during respiration.
Gills	They're unique structures that allow fish to extract oxygen from water.
Air pollution (smog)	It's a type of pollution that makes it hard for humans to breathe.
Water pollution	It's a type of pollution that makes it hard for humans to find clean drinking water.
Soil pollution	It's a type of pollution that makes the crops not grow.
Amphibians	They're living organisms that live in moist (wet) environments as they can live on land or in water.
Skin	It's a structure that allows amphibians to extract oxygen from water.
Endangered species	They're the species that have a great loss in the numbers of their members.
Extinction	It occurs when all members of one species die.

Unit 1 Concept 2

Nocturnal animals	They are animals that adapted to be active at night.
Echolocation	It's a property used by dolphins and bats to locate the prey in the dark.
Echo	It's the reflection of sound waves back from a solid surface to the sound source.
Egyptian mongooses	They're animals that communicate by producing sounds that seem like chatter.
Dolphin	It's a fish that use echolocation property to hunt in the dark wate
Owl	It's a bird that has a bowl-shaped face with feathers.
Nervous system	- It's the system that allows us to sense our surrounding environment. - It's the system that keeps the living organisms safe away from danger.
Brain	- It's the main control center in the human body. - It's the organ that translates information and gives a suitable respond.
Spinal cord	It's a big nerve that passes through the backbone and is connected to the brain.
Nerves	- They're branches extended all over the body parts that carry messages. - They connect the components of the nervous system together
Sensory receptors	They're nerves found in the sensory organs and receive information from the surrounding environment.
Jerboa	It's a desert rodent that has very large ears and long hind legs
Reaction time	It's the time taken by a living organism to respond to danger
Reflex actions	They're messages that are transmitted so fast that you are barely aware of them.
Human	A living organism that communicate by writing, speaking and reading.

	Definitions
Humpback whales	They're living organisms that sing a wide range of musical tones to communicate.
Ants	They communicate together using their sense of smell.
Nurse ants	They're ants that send strong smelly messages to scout ants if the food is low.
Scout ants	They're ants that search for food and locate it.
Solider ants	They're ants that protect the colony from any nearby danger.
A blind person's cane	It's a special device used by a blind person to locate things nearby.
Hearing sense	It's the sense used by bats to detect echo.
Touch sense	It's the sense used by a blind person to detect echo.
Smell sense	It's the sense used by ants to communicate.

Unit 1 Concept 1

Give Reason

1. A camel stores fats in its hump.
   - To adapt to the dry and hot desert environment.
2. The starred agama lizard is always looking for shaded areas in the desert.
   - To keep its body cool during hot, sunny days.
3. The penguin's body has a thick layer of fat and dense feathers.
   - To keep its body warm in the extreme cold weather.
4. The blood vessels in the penguin's feet weave around each other.
   - To keep its toes from freezing as the warm blood vessels heat up the cold blood vessels.
5. Some desert lizards have colorful scales.
   - To hide among the colorful rocks in the desert.
6. A fennec fox has brown, tan-colored fur.
   - To hide and blend in with the desert environment.
7. A polar bear has white fur.
   - To hide and blend in with the snow.
8. A polar bear has thick, heavy fur.
   - To keep its body warm in the cold weather.
9. Brown bears and black bears have dark fur.
   - To hide among the trees in the forest.
10. Some animals have the ability to use camouflage strategy.
    - To hide from their predators or to sneak up on the prey.
11. An Arctic fox has short ears and legs.
    - To stay warm in the cold weather.
12. A fennec fox has extra-large ears.
    - To lose heat and cool its body.
13. A fennec fox undergoes panting.
    - To cool its body.
14. An Arctic fox has thick fur (coat).
    - To keep its body warm in extreme cold weather.
15. The fur of the Arctic fox is white in winter and brown in summer.
    - To sneak up on its prey in any season.
16. Fennec foxes hide in burrows during day time.
    - To stay cool during hot, sunny days in the desert.
17. Arctic foxes hide in burrows at night.
    - To stay warm at cold nights.

18 Both fennec foxes and Arctic foxes eat different kinds of food.
- Because it is hard to find food in the hot desert or the tundra desert.

19 Bull sharks have less competition for finding food in fresh water.
- Because other types of sharks live in salt water only.

20 Bull sharks use a camouflage strategy called countershading in hunting.
- To sneak up on its prey during hunting.

21 The eyes of a panther chameleon move independently (in different directions).
- Because the panther chameleon uses one eye to find food and the other eye to avoid danger.

22 A panther chameleon has V-shaped feet and a long tail with a hand shape.
- To hold the branches of trees tightly.

23 Acacia trees have very long roots that grow downward (taproot roots).
- To get water from the deep soil.

24 The branches of acacia trees gather on the top of its trunk.
- To prevent animals from reaching their leaves.

25 Acacia trees have sharp spines around their leaves.
- To prevent animals from eating their leaves.

26 Acacia trees use wind to communicate with other trees.
- To send smelly messages to nearby acacia trees to produce poison if there is danger nearby.

27 A kapok tree has large wide roots that grow up around the trunk (buttress roots).
- To fix the tree firmly in the soggy soil.

28 A kapok tree has hand-shaped leaves.
- To allow wind to move gently through its leaves without cutting them.

29 A pine tree has a triangular shape and short branches.
- To allow the snow to slide on it without breaking its branches.

30 Water lilies have wide floating leaves.
- To absorb a large amount of sunlight.

31 Mangrove trees have long and strong roots.
- To resist the water waves.

32 Palm trees have thick roots and small leaves.
- To resist the strong winds.

33 Barbary figs have sharp spines.
- To prevent animals from eating their fruits and leaves.

34 The human body is made up of different systems.
- To perform different functions.

35 The human body needs energy.
- To survive, grow and carry out vital processes.

36 The teeth plays an important role in digestion.
- Because teeth break down food into smaller pieces.

37 The tongue plays an important role in digestion.
- Because the tongue mixes the broken food with saliva.

38 Saliva plays an important role in swallowing food.
- Because saliva moistens the food to facilitate its swallowing.

39 The juices of the liver and pancreas are important.
- To help in breaking down the food into nutrients.

40 The small intestine is an important organ in the digestive system.
- Because the nutrients are absorbed by the walls of the small intestine.

41 The large intestine is an important organ in the digestive system.
- Because it absorbs water from the undigested food and turns it to solid waste.

42 The anus is an important organ in the digestive system.
- Because solid waste can leave the body through it.

43 Alveoli are important for the respiratory system.
- Because they are responsible for the gas exchange.

44 The inhaled air differs from the exhaled air.
- Because the inhaled air is rich in oxygen gas, while the exhaled air is rich in carbon dioxide gas.

45 The diaphragm plays an important role in the respiration process.
- Because during inhalation, the diaphragm contracts and moves downward to increase the chest size, while during exhalation, the diaphragm relaxes and moves upward to decrease the chest size.

46 Gills are unique structural adaptations in fish.
- Because they enable fish to breathe underwater.

47 Cars and factories exhausts have bad effects on the environment.
- Because they produce smog which causes damage to the lungs, asthma, and difficulty in breathing.

48 Frogs can live in water.
- Because f ogs' skin can absorb oxygen gas from the water.

49 The dry season is very harmful for amphibians.
- Because their skin must be wet all the time to extract oxygen gas from the water.

50 Pollution of air and water can affect the survival of amphibians.
- Because they breathe oxygen gas from water and air.

51 Scientists must study how amp.....ians interact with their environments.
- To help them survive and protect them from extinction.

Unit 1 Concept 2

1 Some animals are adapted to be active at night.
- These animals may live in an extreme hot habitat, so they prefer to hunt at night when the weather becomes cooler.
- Some prey are available at night only.
- Some animals depend on the complete darkness to surprise their prey.

2 The Egyptian mongoose makes sounds.
- To communicate with other mongooses to move to another place to search for food.

3 Owls can hunt during the night.
- Because they have extraordinary senses of hearing and sight.

4 Dogs can recognize their friends.
- Because they have sharp senses of hearing and smell.

5 Dolphins use echolocation property that depends on echo.
- To locate their prey in the dark water.

6 Owls can rotate (turn) their heads in all directions.
- To search for the prey everywhere.

7 Owls have bowl-shaped faces.
- To pick up distant sounds and amplify them.

8 Owls have large eyes.
- To see the tiny and far-away movements of the prey.

9 The brain has an important function in the nervous system.
- Because it is the main control center of the body that translates messages received from the environment and gives the muscles the suitable response.

10 Nerves have an important function in the nervous system.
- Because they carry messages through the human body.

11 The Egyptian jerboa can jump for long distances.
- Because it has long, hind legs to jump for long distances.

12 The presence of hair on the Egyptian jerboa's feet and toes.
- To help it grip the sand during jumping in zigzag paths.

13 The Egyptian jerboa has large and sensitive ears.
- To detect even the quiet noise of a snake.

14 Humpback whales sing different songs.

- To communicate with each other in different seasons.

15 The nurse ants send smelly messages to scout ants.

- To alert the scout ants that the food is low.

16 The soldier ants use smells in their communication.

- To communicate with the other ants if there is a danger nearby.

17 The echo that is picked up by the special cane of blind people is turned into vibrations.

- To help the blind person to detect his surroundings using his touch sense.

18 Blind people cannot hear the sound emitted from their special canes.

- Because their special canes emit a high-pitched sound that humans' ears cannot hear.

What Happens if

Unit 1 Concept 1

1. The penguin has no feather or no fat layer on its body?
   - It cannot adapt to the cold weather and it will die.
2. The warm blood vessels and cold blood vessels in the penguins' feet d not weave around each other?
   - The penguins' toes will freeze.
3. The polar bear has thin fur instead of thick fur?
   - It cannot adapt to the cold weather and it will die.
4. The polar bear has dark fur instead of white fur?
   - It will not be able to hide from the prey, so it will die because it can't get foo
5. The Arctic fox has a white coat during all seasons of the year?
   - It cannot hide from its prey in summer, so it will die because it can't get food.
6. A fennec fox has short ears?
   - It will not be able to cool its body.
7. An Arctic fox has long ears?
   - It will not be able to warm its body.
8. The sense of hearing becomes weak in foxes?
   - They cannot hunt their prey.
9. A bull shark moves from an area of salt water to an area of fresh water?
   - It will find less competition in finding food.
10. Both eyes of the panther chameleon move in one direction only?
    - It cannot catch the prey or predators may hunt it.
11. A panther chameleon is exposed to danger?
    - It puffs up its body with air, opens its mouth wide and changes the color of its scales.
12. The length of the acacia taproot roots is short?
    - The roots cannot get water in the deep soil.
13. There are no buttress roots in the kapok tree?
    - The kapok tree cannot stay firmly in the soggy soil.
14. A pine tree doesn't have a triangular shape?
    - The snow will break its branches.
15. The trunk of a kapok tree becomes very short?
    - The kapok tree won't get the needed sunlight, so it will die.
16. A water lily has narrow leaves instead of wide leaves?
    - It cannot absorb a large amount of sunlight.

17 A palm tree has thin roots and large leaves?
- It cannot resist the strong winds.

18 A mangrove tree has short and weak roots?
- It cannot resist the waves of water.

19 A barbary fig has no spines?
- Animals will eat it easily.

20 The small intestine doesn't exist in the human body?
- Nutrients will not be produced and the digestive system cannot perform its function.

21 The nutrients absorbed by the walls of the small intestine enter the tiny blood vessels?
- The blood carries these nutrients to all body parts.

22 The diaphragm moves downward during inhalation?
- The chest size increases and the air rich in oxygen gas enters the lungs.

23 The diaphragm moves upward during exhalation?
- The chest size decreases and the air rich in carbon dioxide gas comes out of the lungs.

24 The exhausts from cars and factories increase in big cities?
- Smog increases causing breathing problems, damage of lungs, asthma, and heart diseases.

25 Water pollution increases (for humans and fish)?
- Humans cannot find clean water to drink, and fish will die.

26 Water pollution increases in the natural habitat of amphibians?
- The number of amphibians will decrease.

27 Amphibians do not have lungs and breathe only through their skin?
- They will live only underwater.

28 Salamenders have lungs only to respire?
- Salamanders will live on land only.

29 The skin of frogs becomes dry?
- They cannot survive and they will die.

Unit 1 Concept 2

1 Dolphins have a weak sense of hearing?
- They cannot detect echo reflected from the prey, so they will not be able to hunt in dark water.

2 The sound waves produced by a dolphin hit an object underwater?
- The sound waves will bounce back to the dolphin in the form of echo, so the dolphin can detect the location of the object.

3 Bats have a weak sense of hearing?
- They cannot detect the echo reflected from the prey, so they won't be able to hun

4 Owls cannot turn their heads in all directions?
- They cannot search for the prey everywhere.

5 Your hand touches the spines of a cactus plant?
- Your hand will move away quickly.

6 The Egyptian jerboa hears a snake moving towards it?
- It will hop in a zigzag path to escape quickly.

7 The hearing sense of humpback whales becomes weak?
- They cannot communicate by songs using their hearing sense.

8 The smell sense of ants becomes weak?
- They cannot communicate with each other.

9 The amount of food in the ant's colony becomes low (decreases)?
- The nurse ants will send a smelly message to the scout ants to alert them.

10 There is a danger near an ant's colony?
- The solider ants will send smelly messages to alert the other ants.

11 The high-pitched sound that is produced by the blind person's cane hits an object?
- It bounces back to the cane in the form of echo which is turned into vibrations.

Revision

Concept 1.1
Adaptation and Survival

1 Choose the correct answer:

1. _____ is one of the behavioral adaptations that help animals protect themselves from enemies.
   a. Camouflage b. Extinction c. Migration d. Reproduction
2. Adaptations include changes that _____ in the environment.
   a. reduce chances of survival b. reduce life span for individuals
   c. improve species survival d. reduce reproduction process
3. What is adaptation? _____.
   a. It's the process by which new species appear.
   b. It's a property possessed by living things to help them survive.
   c. It's a form of pollination for trees.
   d. It's the process of getting rid of harmful substances in living things.
4. What happens to the organisms that cannot adapt to environmental changes?
   a. The population stays constant. b. Surviving
   c. Extinction d. The population increases.
5. The warm blood transfers to a penguin's feet through its _____.
   a. blood vessels b. skin c. head d. feathers
6. A penguin is one of the _____.
   a. reptiles b. birds c. mammals d. fish
7. A polar climate _____.
   a. is the hottest place on Earth b. is the coldest place on Earth
   c. looks like a desert climate d. looks like a forest climate
8. The extra-large _____ of a fennec fox allow(s) heat to escape and cool the fox.
   a. fur b. face c. ears d. eyes
9. The presence of thick white fur is an adaptation in _____.
   a. starred agama lizards b. polar bears
   c. fennec foxes d. forest bears
10. A panther chameleon uses its _____ like a hand.
    a. eyes b. tail c. head d. ears
11. Panther chameleons puff up (blow) their bodies with air to _____ their enemies.
    a. play with b. eat c. sleep d. scare

12 _____ cover(s) the body of Arctic foxes.
a. Heavy hair b. Thin fur c. Many feathers d. Thick fur

13 _____ pant to lower their bodies temperature.
a. Whales b. Foxes c. Penguins d. Bats

14 Animals that live in a hot environment have _____ ears to allow heat to escape and be cool.
a. small b. short c. long d. sharp

15 Which of the following is an example of camouflage?
a. A camel's broad feet b. A camel's hump
c. Powerful parrot wings d. A fox's brown fur

16 An eagle is a kind of bird that eats meat. Its beak is strong and sharp. This structural adaptation helps it to _____.
a. rip meat b. see c. escape d. find a shelter

17 _____ can live in both fresh and salt water.
a. Polar Bears b. Bull Sharks c. Dolphins d. Penguins

18 _____ puff up (blow) their bodies with air to scare their enemies.
a. Bats b. Snakes
c. Panther chameleons d. Agama lizards

19 Bull sharks can live in _____.
a. fresh water only b. seas and mud
c. rivers, seas, and oceans d. salt water only

20 One of the structural adaptations of water lily is that it has _____.
a. long roots b. sharp spines c. tiny leaves d. wide leaves

21 The tree that stores water in its trunk is _____ tree.
a. kapok b. acacia c. pine d. water lily

22 Both of acacia trees and kapok trees have the same _____.
a. habitat b. shape c. roots d. trunk

23 The roots of palm plants help them to _____.
a. stand strong against the wind b. reach the underground water
c. stay steady in the soil d. all the previous answers

24 In the process of respiration (inhalation), _____ gas enters the lungs.
a. oxygen b. carbon dioxide c. nitrogen d. hydrogen

25 The food remains inside the human stomach for _____.
a. many hours b. many days c. a few seconds d. a few minutes

26 Stomach is a part of the digestive system that _____.
a. chews food b. converts solid food into liquid
c. absorbs nutrients from the food d. delivers food into the esophagus

27 Digestion of food starts in the _____ .
a. esophagus b. lungs c. mouth d. stomach

28 The long winding tube that is more than 6 meters long is called _____
a. small intestine b. esophagus c. large intestine d. stomach

29 All the following are components of the digestive system, except _____ .
a. lungs b. stomach
c. small intestine d. large intestine

30 The esophagus is part of the digestive system that _____ .
a. chews the food b. transfers food to the stomach
c. absorbs nutrients from food d. transfers air to the lungs

31 Fish extracts oxygen from water by their _____ .
a. skin b. gills c. lungs d. fins

2 Complete the following sentences using the words between the brackets:

1 The fat layer under the animal's skin in order to warm it is a _____ adaptation. (structural - behavioral)

2 The colorful scales in desert lizards is considered a _____ adaptation. (structural - behavioral)

3 A burrow is an excellent place for fennec foxes to stay _____ during the day. (warm - cool)

4 Mangrove trees grow in _____ . (fresh water - salt water)

5 The cactus plant has spines that protect it from being eaten by desert animals, and this is considered a form of _____ . (behavioral adaptation - structural adaptation)

6 The leaves of _____ trees look like your hand. (kapok - acacia)

7 Your _____ mix and grind the food inside your mouth. (teeth - teeth and tongue)

8 _____ is a tube with muscles that pushes the food into the stomach. (Trachea - Esophagus)

9 During exhalation, _____ gas comes out of the lungs. (oxygen - carbon dioxide)

10 The human body uses the _____ system to get nutrients from food. (respiratory - digestive)

11 The lungs are one of the important organs in the _____ system. (respiratory - digestive)

12 The process of pulling air in and pushing air out of the body is called _____ . (respiration - digestion)

13 The diaphragm rises up during _____. (inhalation - exhalation)

14 Fish breathe _____ gas which is dissolved in water. (oxygen - carbon dioxide)

15 _____ destroys the lungs and causes many diseases. (Breathing - Air pollution)

3 Put (✓) or (✗):

1 Adaptation is the change of the structure or behavior of an organism's body to survive. ( )

2 Foxes have a strong sense of hearing. ( )

3 Polar bears have extra-large ears to lose heat. ( )

4 Fennec foxes live in deserts, while caracals live in forests. ( )

5 Fennec foxes feed on fruits only. ( )

6 The feet of the penguin do not freeze because they have a layer of fat. ( )

7 The body of a polar bear is covered with thick fur. ( )

8 Black bears have dark fur to hide among trees. ( )

9 The fur that some animals possess to protect them from the cold is a behavioral adaptation. ( )

10 The migration of birds to search for food is considered a behavioral adaptation. ( )

11 Some animals that live in cold climates have long ears to help them maintain their body temperature. ( )

12 Animals digging trenches is a form of structural adaptation. ( )

13 Animals can't eat barbary figs because of their sharp spines. ( )

14 Plants have two types of adaptation, structural and behavioral. ( )

15 Plants need long roots that extend deep into the soil to survive in the water scarcity. ( )

16 Sending a smelly message through acacia trees is a behavioral adaptation. ( )

17 Acacia trees grow in the Amazon forest. ( )

18 The needle leaves of pine trees help them lose water. ( )

19 All living organisms need food and oxygen gas to get energy. ( )

20 A pharynx is a common cavity between the digestive and the respiratory systems. ( )

21 Food is turned from a simple form into a complex one in digestion. ( )

22 Your teeth crushes food inside your mouth during chewing. ( )

23 The absorption of the digested food takes place in the stomach. ( )
24 The large intestine absorbs nutrients from the waste. ( )
25 The food passes through the large intestine before it goes to the small intestine. ( )
26 The respiratory system is responsible for the entry of air into the body. ( )
27 When running and making an effort, the number of breathing times decreases. ( )
28 During exhalation, the diaphragm moves upward and relaxes. ( )
29 Carbon dioxide gas is important for the respiration of animals. ( )
30 Exhaled air is loaded with oxygen. ( )
31 Adult frogs breathe using their gills. ( )
32 Amphibians include frogs and salamanders. ( )
33 Frogs are reptiles, while panther chameleons are amphibians. ( )
34 Man cannot restore the ecosystem in any way. ( )
35 Water pollution affects fish, but doesn't affect humans or plants. ( )

4 Write the scientific term:

1 It's the change in a living organism's body or its behavior to be able to survive in its environment.
2 It's a type of adaptation in which the living organism blend in with the surroundings to hide from its prey or predator.
3 It's a change in the structure of the living organism's body to cope with its environment conditions.
4 It's a strategy of camouflage that helps the bull shark sneak up on its prey.
5 It's the process of breaking down food into nutrients to get energy.
6 It's a muscle that has an important role in the respiration process.
7 They're living organisms that live in a moist environment and have two ways of respiration.
8 It's the structure that helps fish to respire underwater.
9 They're air sacs surrounded by blood vessels in the respiratory system.
10 It's a bird that has weaved blood vessels in its feet and toes.

5 Complete the following sentences using the words between the brackets:

1 (Respiration - Water lily - buttress roots)

a. The _____ has wide floating leaves.

b. _____ includes inhalation and exhalation processes.

c. A kapok tree has _____ to fix it in the soggy soil.

2 (penguins - Arctic foxes - bull shark - Fennec foxes)

a. _____ pant to lower their bodies temperature.

b. _____ and _____ are from the animals that can live in the cold weather.

c. A _____ can sneak up on its prey using countershading.

6 Choose from column (A) what suits it in column (B):

A

Column (A)	Column (B)
1 Acacia trees	a. absorb oxygen directly from water through their skin.
2 Amphibians as frogs	b. are little air sacs found in the lungs.
3 Alveoli	c. use a camouflage strategy called countershading.
4 Bull sharks	d. use wind to send a smelly message.

1 _____ 2 _____ 3 _____ 4 _____

B

Column (A)	Column (B)
1 An Arctic fox	a. has hand-shaped leaves.
2 A bull shark	b. lives in fresh water only.
3 A kapok tree	c. has short ears and legs
4 A water lily	d. lives in salt water only.
5 A mangrove tree	e. lives in fresh water and salt water.

1 _____ 2 _____ 3 _____ 4 _____ 5 _____

C

Column (A)	Column (B)
1 A gas that is necessary for respiration.	a. Carbon dioxide gas
2 It's a process of pushing air into the body and outside it.	b. Respiration
3 A gas produced from respiration.	c. Oxygen gas

1 _____ 2 _____ 3 _____

D

Column (A)	Column (B)
1 Pharynx	a. connects the throat to the stomach.
2 Camouflage	b. is a type of adaptation that helps an animal to hide.
3 Esophagus	c. is a common organ in the digestive and respiratory systems.
4 Diaphragm	d. is a muscle that plays an important role in breathing (respiration).

1 _____ 2 _____ 3 _____ 4 _____

7 Cross out the odd word:

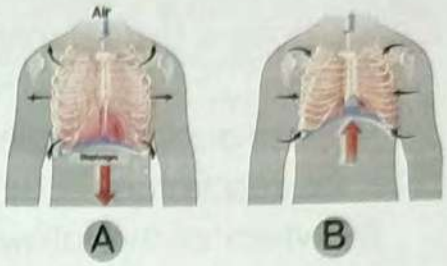
1 Camel – Fennec fox – Arctic fox – Agama lizard
2 Penguin – Polar bear – Agama lizard – Arctic fox
3 Lungs – Alveoli – Gills – Diaphragm
4 Saliva – Stomach – Esophagus – Small intestine

8 Classify the type of adaptation by putting the letter (S) for structural adaptations and the letter (B) for behavioral adaptations:

1 Producing poison in acacia trees.
2 Panting in fennec foxes.
3 The tan-colored fur of a fennec fox.
4 A chameleon can move each eye in a different direction.
5 Rabbits have long and strong hind legs that help them jump quickly and escape in dangerous times.
6 Some plants have spines to defend themselves against enemies.

9 Answer the following questions:

1. If you find a butterfly that have a color like the color of the tree it lives on, this phenomenon is called _____.
2. Study the opposite two figures. Identify the name of each of the two processes in figures A and B:



   a. Figure A: _____
   b. Figure B: _____
   c. What happens to the diaphragm in figure (A)? _____.
3. The system that digests food to produce energy is the _____.
4. Chameleons can move each of their eyes in a different direction, this adaptation helps them _____.
5. Some dogs live in a cold environment, while some live in a hot environment. In your opinion, which one has thick fur, the ones living in the cold environment or the hot environment? And why? _____.
6. The leaves of plants that float above the surface of the water are so wide that they can _____.
7. Animals that have a thick layer of fat under their skin are animals that live in a _____ environment
8. Mention one animal and one plant that live in rainforests.

_____

10 Give a reason for:

- Polar bears have thick fur.

_____

11 What happens if:

- The diaphragm contracts and moves downward?

_____

Revision

Concept 1.2
Senses at Work

1 Choose the correct answer:

1. The _____ system helps us to translate messages (stimuli) that come from our surroundings.
   a. respiratory b. digestive c. circulatory d. nervous
2. Which of the following carry the message from your eyes to your brain when you see something?
   a. Nerves b. Muscles c. Veins d. Glands
3. Your sensation of hot weather depends on the sensory receptors in your _____ .
   a. eyes b. skin c. nose d. ears
4. Bats become active _____ .
   a. in the morning b. at noon c. at night d. all day
5. A dolphin depends on _____ to locate its prey and objects underwater.
   a. its memory b. its sense of smell
   c. echolocation d. its sense of touch
6. Your _____ is the sensory organ for seeing objects
   car b. tongue c. nose d. eyes
7. When you determine a sweet or bitter taste, you use your _____ .
   a. tongue b. eyes c. ears d. nose
8. All the following are components of the nervous system, except the _____ .
   a. spinal cord b. heart c. nerves d. brain
9. A bat is a _____ animal.
   a. nocturnal b. morning c. non-flying d. diurnal
10. A/An _____ is characterized by the ability to move its head in all directions.
    a. panther chameleon b. jerboa
    c. human d. owl
11. The _____ is the main control center in your body.
    a. stomach b. brain c. lung d. liver
12. To detect the place of a table in a completely dark room, you can depend on your sense of _____ .
    a. sight b. touch c. taste d. hearing

13 When your eyes see a red traffic light, that's a signal to _____ .
a. increase your speed b. decrease your speed
c. keep your speed as it is d. stop instantly

14 The organ that is responsible for the sense of sight is the _____ .
a. ear b. tongue c. nose d. eye

15 Bats use their _____ to get information about their surroundings in the dark
a. eyes b. tongue c. ears d. hands

16 When an object comes close to your eyes suddenly, _____ occur(s).
a. a reflex action b. a fast response
c. a slow response d. a and b

17 Reading and writing are common types of communication in the _____ world.
a. animals' b. plants' c. humans' d. birds'

18 Animals can communicate with each other through _____ .
a. sound and light b. talking
c. reading d. writing

19 Humpback whales use singing to _____ .
a. heat themselves up b. hide from enemies
c. communicate d have fun

20 Humpback whales sing during _____ months, which is the mating season.
a. winter b. summer spring d. autumn

2 Complete the following sentences using the words between the brackets:

1 The time taken for the body to receive information from the environment is the _____ . (reflex action - response time)

2 The _____ is an animal that can escape from its enemies because of the length of its hind legs. (Arctic fox - jerboa)

3 The eyes send messages to the _____ through the nerves. (brain - spinal cord)

4 A dolphin can locate its prey through its sense of _____ . (hearing - sight)

5 There's an integration between our senses and the _____ system to interact with the surroundings. (respiratory - nervous)

6 _____ can communicate by making sounds like a chatter. (Mongooses - Ants)

7 Sensory receptors send messages from _____.
(the brain to the muscles - the sensory organs to the brain)

8 The echolocation feature depends on the _____.
(hearing sense - sight sense)

9 The skin is an important organ of the _____ system.
(respiratory - nervous)

10 The ____ passes through the human's backbone. (spinal cord - brain)

11 The echo is turned into vibrations in the _____ that is/are used by blind people. (goggles – cane)

12 _____ sing underwater to communicate with each other.
(Bull sharks - Whales)

13 The winter months are considered the _____ season for humpback whales. (mating - feeding)

14 Humpback whales and dolphins communicate by their _____ sense
(hearing - sight)

15 A group of ants send a _____ message to communicate with each other. (visual - smelly)

16 _____ communicate using their sense of smell.
(Dolphins - Ants)

3 Put (✓) or (✗):

1 The ear is the organ that detects the sound waves produced from a radio. ( )

2 The brain is responsible for processing information. ( )

3 Bats use their sense of smell to avoid dangers. ( )

4 Humans have a stronger sense of hearing than dolphins. ( )

5 A person can identify the spoiled food through his/her sense of hearing. ( )

6 Ants can know the sweet taste by their sense of smell. ( )

7 The nervous system works separately from the five senses. ( )

8 The sensory receptors in your nose receive the scent of a delicious pizza. ( )

9 The skin is the sensory organ that makes you feel the smoothness of the cloth. ( )

10 Dogs have super senses of smell and sight to recognize friends. ( )

11 Both owls and panther chameleons have a sharp sense of hearing. ( )
12 The jerboa is a rodent that can be found at the same habitat of the caracal. ( )
13 Dolphins have a strong sight sense. ( )
14 Soldier ants send a smelly message in case of a shortage of food. ( )
15 Echo helps dolphins locate their prey in air. ( )
16 The reaction time of a living organism must be less than one second to escape from any danger. ( )
17 The reflexes are fast messages you are barely aware of. ( )
18 Eyes are considered sensory organs of light, not sources of light. ( )
19 Humpback whales change their sound pitch according to the season. ( )
20 Humpback whales can sing underwater. ( )
21 Humpback whales communicate with each other through flashing. ( )
22 Animals can use more than one sense to communicate. ( )
23 Scout ants are responsible for alarming the colony in danger. ( )
24 Bats use their ears to "see" in the dark. ( )

4 Write the scientific term:

1 It's the main control center of the human body.
2 It's a property by which a bat can locate its prey insects through the sound reflected from them.
3 They're animals that are active at night.
4 They are nerves found in the sensory organs to receive information from the surroundings.
5 It's the time taken by a living organism to respond to a danger.
6 It's the system that is responsible for the reflex actions.
7 It's a desert rodent that has large ears and long, hind legs.
8 Ants that are responsible for finding food.
9 Ants that send smelly messages to scout ants when food is low.
10 It's the sense used to differentiate between smooth and rough surfaces.
11 They're messages that are transmitted so fast that you are barely aware of them.

5 Cross out the odd word:

1. Taste - Smell - Hearing - Eyes
2. Reading - Writing - Echolocation - Language
3. Bats - Ants - A blind person's cane - Dolphins

6 Choose from column (A) what suits it in column (B):

A

Column (A)	Column (B)
1 A jerboa	a. depends on echolocation to find its prey.
2 An owl	b. depends on its hind legs to jump in a zigzag path.
3 A bat	c. is an animal that has a bowl-like face.

1 _____ 2 _____ 3 _____

B

Column (A)	Column (B)
1 It is similar in its processing of information to a computer.	a. the spinal cord.
2 They carry messages from the brain to all body parts and vice versa.	b. reaction time.
3 When a strange object approaches your eyes,	c. The brain
4 The time taken by a living organism to react is	d. Nerves
5 A bundle of nerves that passes through the backbone is	e. the reflex action occurs.

1 _____ 2 _____ 3 _____ 4 _____ 5 _____

7 What happens if:

1. Your foot touches a nail on the ground?
2. The hind legs of a jerboa are short?

8 Answer the following questions:

1. A dolphin can locate living organisms and things under the surface of the water; explain the feature that helps the dolphin to do so.
2. Rabbits have strong and long hind legs that help them jump quickly and escape in dangerous times. Determine the type of adaptation.

October Questions Bank

Question 01 choose the corret answer

1. Adaptation helps the living organism in all the following characters, except
   (a) surviving (b) reproduction (c) hiding (d) death
2. A starred agama lizard could be prey for .....
   (a) fennec foxes (b) polar bears (c) Arctic foxes (d) brown bears
3. A rabbit could survive in a polar habitat if it had ..... fur.
   (a) thick (b) tan (c) white (d) a and c
4. Penguin's feet have blood vessels that bring ..... up from its feet towards its body.
   (a) warm blood (b) cold blood (c) warm water (d) cold water
5. One of the adaptations that helps the animal to protect itself from enemies
   (a) camouflage (b) extinction (c) digestion (d) reproduction
6. The warm blood transfers to a penguin's feet through its .....
   (a) blood vessels (b) skin (c) head (d) feathers
7. A penguin is one of the .....
   (a) reptiles (b) birds (c) mammals (d) fish
8. .....is considered as a behavioral adaptation in living organisms
   (a) long ears (b) living in burrows (c) big eyes (d) countershading
9. The following animals are structurally adapted to live in polar regions, except .....
   (a) penguin (b) fennec fox (c) arctic fox (d) polar bear
10. When a panther chameleon stands on leaves of trees, the color of its scales changes into.....
    (a) white (b) green (c) blue (d) black

11 The fur of fennec fox protects it from.....
(a) wind (b) rains (c) hot weather (d) cold weather

12 The extra-large.....of a fennec fox allow(s) heat to escape and cool the fox
(a) fur (b) face (c) ears (d) eyes

13 The presence of thick white fur is an adaptation in .....
(a) starred agama lizards (b) polar bears (c) fennec foxes (d) forest bears

14 A panther chameleon uses its ..... like a hand.
(a) eyes (b) tail (c) head (d) ears

15 Panther chameleons puff up their bodies with air to ..... their enemies
(a) play with (b) eat (c) sleep (d) scare

16 ..... pant to lower their bodies temperature.
(a) Whales (b) Foxes (c) Penguins (d) Bats

17 ..... can live in both fresh and salt water.
(a) Polar Bears (b) Bull Sharks (c) Dolphins (d) Penguins

18 ..... puff up their bodies with air to scare their enemies.
(a) Bats (b) Panther chameleons (c) Snakes (d) Agama lizards

19 The body of arctic fox covered with .....
(a) skin (b) thick fur (c) feathers (d) scales

20 Panting in fennec fox belongs to ..... adaption.
(a) only structural (c) only behavioral
(b) both structural and behavioral (d) neither structural nor behavioral

21 All of the following from structural adaptation of arctic fox except .....
(a) Eat all type of food (b) Thick fur (c) Short ears (d) Short leg

22 Animals that live in a hot environment have ..... ears to allow heat to escape to be cool.
(a) small (b) short (c) large (d) sharp

23 fennec fox has a tan- colored coat that provides ..... in its environment
(a) camouflage (b) respiration (c) panting (d) communication

24 Some plants have wide leaves in order to .....
(a) prevent their tearing off due to wind (b) prevent animals from eating them
(c) reduce water loss (d) get more sunlight

25 From the structural adaptation of water lily plant is that .....
(a) it has long roots (b) it has tiny leaves
(c) it has sharp spines (d) it has wide leaves

26 From umbrella-shaped trees are .....
(a) mangrove tree and acacia tree (b) mangrove tree and kapok tree
(c) acacia tree and kapok tree (d) barbary fig and water lily

27 Mangrove tree has long and strong roots to .....
(a) resist the strong wind (b) resist the water waves.
(c) prevent the loss of water (d) absorb the underground water.

28 One of the behavioral adaptations of acacia tree is that .....
(a) very long root (b) sharp spines
(c) very tall trunk (d) produces a poison

29 The roots of palm plants help them to .....
(a) stand strong against the wind (b) reach the underground water
(c) fixation of plants in the soil (d) all the previous answers

30 The tree that stores water in its trunk is ..... tree.
(a) kapok (b) acacia (c) pine (d) water lily

31 Both of acacia trees and kapok trees have the same .....
(a) habitat (b) shape (c) roots (d) trunk

32 In dry desert, most plants need ..... to get water from the sandy soil
(a) Long trunk (b) long roots (c) long branch (d) long leaves

33 All of the following living organisms live in desert, except.....
(a) palm tree (b) pine tree (c) starred agama lizard (d) fennec fox

34 ..... passes the food from pharynx to stomach.
(a) Esophagus (b) Stomach (c) Trachea (d) Alveoli

35 Digestion process begins in the .....
(a) stomach (b) esophagus (c) mouth (d) small intestine

36 The food moves into the stomach through the .....
(a) esophagus (b) trachea (c) small intestine (d) tongue

37 The long winding tube that is more than 6 meters long is called .....
(a) small intestine (b) esophagus (c) large intestine (d) stomach

38 Crushing the food in your mouth is the function of .....
(a) stomach (b) tongue (c) saliva (d) teeth

39 The undigested food pass from the small intestine into the .....
(a) liver (b) pancreas (c) brain (d) large intestine

40 In large intestine, ...is absorbed from the undigested food
(a) starch (b) fat (c) water (d) oil

41 The stomach has an acid that helps in .....
(a) digestion of food (b) absorption of digested food
(c) crushing of food (d) absorption of water from undigested food

42 In the process of inhalation, ... gas enters the lungs.
(a) oxygen (b) carbon dioxide (c) nitrogen (d) hydrogen

43 All the following are components of the digestive system, except ....
(a) lungs (b) stomach (c) small intestine (d) large intestine

44 The passage of air during inhalation is .....
(a) throat - nose - lungs - trachea (b) trachea - throat - lungs - nose
(c) lungs - nose - throat - trachea (d) nose - throat - trachea - lungs

45 Fish extracts oxygen out of the water by .....
(a) skin (b) gills (c) lungs (d) fins

46 Gills in fish are considered as .....
(a) behavioral adaptation (b) structural adaptation
(c) both structural and behavioral (d) neither structural nor behavioral

47 Amphibians absorb oxygen directly from water by their .....
(a) skin (b) gills (c) lungs (d) nose

48 When exposing to danger.....system helps to recognize and avoid it
(a) Circulatory system (b) digestive (c) respiratory (d) nervous

49 Which of the following can turn its head in all directions?

(a) lizards (b) owls (c) cats (d) cow

50 Mongooses communicate together by producing .....

(a) flashlights (b) a smell (c) sounds (d) heat

51 Animals that become active at night are called .....

(a) diurnal animals (b) nocturnal animals (c) extinct animals (d) endangered animals

52 The ..... is the main control center in the body of living organisms.

(a) heart (b) esophagus (c) stomach (d) brain

53 What carries the message from your eyes to your brain when you see something.....

(a) nerves (b) muscle (c) veins (d) glands

54 Owls have all the following properties to sense distant preys, except .....

(a) large eyes (b) a head that turns in all directions

(c) a bowl-shaped face (d) weak sense of hearing

55 Bats use their ..... to get information about their surroundings in the dark.

(a) nose (b) tongue (c) eyes (d) ears

56 The nervous system of mammals consists of .....

(a) the brain only (b) the spinal cord only

(c) nerves and the spinal cord only (d) the brain, the spinal cord and nerves

57 .....is the mating season of humpback whales

(a) summer (b) winter (c) spring (d) fall

58 Sense organ collect information and send signals to..... for processing and understanding

(a) hands (b) legs (c) brain (d) stomach

59 ..... use echolocation by bouncing high-pitched sounds in the air.

(a) Bats (b) Dolphins (c) Whales (d) Snakes

60 Locating food is the role of .....

(a) Queen ants (b) Nurse ants (c) Scoat ant (d) Soldier ants

Question 02 put (true) or (false)

1. Thick white fur is an adaptation in bears that live in polar regions ( )
2. Black bears have dark fur to hide among trees. ( )
3. Fennec foxes live in deserts, while caracals live in forests ( )
4. The body of a polar bear is covered with thick fur. ( )
5. In polar environment, the sandy-colored fur of caracal help it blend in with snow ( )
6. The ears of arctic fox are longer than those of fennec fox ( )
7. All type of sharks live in fresh water. ( )
8. Foxes have a strong sense of hearing. ( )
9. The migration of birds to search for food is considered a form of behavioral adaptation ( )
10. Some animals that live in cold have a long ears, to help it to maintain the body temperature ( )
11. Adaptation is the change of the structure or behaviour of an organism's body to survive. ( )
12. Polar bears have extra-large ears to lose heat ( )
13. Fennec foxes feed on fruits only ( )
14. Living organisms can adapt their environmental conditions through structural adaptation and behavioral adaptation. ( )
15. The behavioral adaptation is a change in the body structure of a living organism to survive. ( )
16. Acacia trees grow in the Amazon Forest. ( )
17. Plants have two types of adaptation, structural and behavioral ( )
18. The needle leaves of pine trees help them lose water. ( )
19. Animals can't eat barbary figs because of their sharp spines. ( )
20. The stomach is an important organ in the digestive system ( )
21. All living organisms need food and oxygen gas to get energy ( )
22. Digestion process begins in the stomach with the help of saliva ( )
23. We eat food to obtain energy. ( )
24. Teeth crush food inside your mouth during chewing. ( )

25. The absorption of the digested food takes place in the stomach. ( )
26. The large intestine absorbs nutrients from the waste. ( )
27. Food passes from mouth to stomach through a narrow tube known as small intestine. ( )
28. Exhaled air carries carbon dioxide. ( )
29. Respiratory system is the system responsible for entering air to the body. ( )
30. During exhalation, the diaphragm expands. ( )
31. During inhalation, the diaphragm moves down ( )
32. Carbon dioxide gas is important for the respiration of animals. ( )
33. The esophagus is an important organ in the respiratory system ( )
34. The lungs are important organ in the respiratory system ( )
35. The diaphragm is an important organ in the digestive system ( )
36. Man cannot restore the ecosystem with any way ( )
37. Water pollution affects fish, but doesn't affect humans or plants. ( )
38. Amphibians include frogs and salamanders. ( )
39. Frogs are reptiles, while panther chameleons are amphibians. ( )
40. Frogs breathe using their gills ( )
41. Both salamander and fish can breathe in through lungs ( )
42. The sense of hearing of dolphin is stronger than that of human ( )
43. Your sense of hearing allows you to see the light of a flashlight ( )
44. The heart is an important organ in the nervous system ( )
45. Dolphins have strong sight sense. ( )
46. The brain responsible for processing information ( )
47. Bats use their sense of smell to avoid dangers ( )
48. Snakes have the ability to rotate their heads in all directions ( )
49. The nervous system works separately from the five senses. ( )
50. Whales can communicate with each other by using songs. ( )

Question 03 complete the following sentences using the word between brackets

1. A camel store ..... in its hump to adapt to the desert environment (fats - proteins)
2. The blood vessels in a penguin's feet bring .....blood up (cold - warm)
3. A polar bear has.....fur to stay warm in cold weather. (white - thick)
4. Bull sharks can live in ..... (fresh water - salt water – both)
5. A burrow is an excellent place for fennec foxes to stay..... during the day (warm - cool)
6. The fat layer under the animal's skin to warm it is an .....adaptation (structural - behavioral)
7. The leaves of ..... trees look like your hand. (kapok - acacia)
8. Mangroves trees grow in..... (Fresh water - salt water)
9. ..... mix and grind food inside the mouth (teeth only - teeth and tongue)
10. A tube with muscles that help push food into the stomach, called..... (Trachea - Esophagus)
11. Human body uses (respiratory - digestive) system to get nutrients from food
12. lungs are one of the important organs in (respiratory- digestive) system
13. The echo sound feature depends on ..... (hearing sense - sight sense)
14. Most animals have ..... senses than humans. (weaker – sharper)
15. Dolphins can locate their prey in dark water using their..... sense. (hearing - sight)
16. An owl can rotate its ..... in all directions. (eyes – head)
17. The spinal cord is an important organ of the (nervous - digestive) system
18. The eye sends messages to the.....through the nerves. (brain - spinal cord)
19. The skin is an important organ of the (Respiratory - Nervous) system
20. The songs of Hamp back whales have a (higher- lower) pitch in summer

Question 04 write scientific term for each of the following

1. It covers the body of some types of bears to blend in with snow and keeps their bodies warm. ( )
2. A type of adaptation that helps the living organism to blend in with the surrounding environment ( )
3. It's a bird that has weaved blood vessels in its feet and toes. ( )
4. A reptile that its body is covered by colored scales and has V-shaped feet. ( )
5. A type of foxes has a tan-colored fur. ( )
6. It's a change in the structure of the living organism's body to cope with its environment conditions. ( )
7. It's a strategy of camouflage that helps the bull shark sneak up on its prey. ( )
8. It's the change in a living organism's body or its behaviour to be able to survive in its environment. ( )
9. The fox that has extra-large ears to lose its heat ( )
10. A feature in bull shark, in which the lower surface of its body is lighter than its upper surface ( )
11. It is a tree that is found in snow and has a triangle shape. ( )
12. An organ through which solid wastes of digestion leave body ( )
13. A process of breaking down food into smaller parts that the body cells absorb and use to get energy and grow. ( )
14. A large muscle that contracts during breathing in and relaxes during breathing out. ( )
15. It allows the air to pass from the nose to the trachea. ( )
16. They're air sacs surrounded by blood vessels in the respiratory system. ( )
17. A gas presents in air and water, and is very important for breathing process ( )
18. It's the structure that helps fish to respire under water. ( )
19. They're living organisms that live in a moist environment and have two ways of respiration ( )

20 A system that controls all the body functions, and nerves are one of its parts. ( )

21 An animal that can turn its head backwards, and has a bowl-shaped face and large eyes ( )

22 The time taken by an organism's body to respond to different reactions ( )

23 The organ which receives the smell of pizza ( )

24 The organ responsible for processing information transmitted to it then send messages to the sensory organ ( )

25 The system that consists of brain, spinal cords and nerves. ( )

26 A group of ants which is responsible for sending smelly messages when there is a shortage of food. ( )

27 Ants send smelly message to alert the ants where to find food ( )

Question 05 Give Reason for each of the following

1 Fennec fox has sandy-colored fur

.....

2 The polar bear has thick white fur.

.....

3 The blood vessels in penguin feet weaves around each other

.....

4 The body of chameleon is covered with colored scales.

.....

5 Chameleons can move each of their eyes in a different direction, this adaptation helps them

.....

6 Fennec fox has extra-large ears, while arctic fox has short ears.

.....

7 Panther chameleon has V-shaped feet and a long tail.

.....

8 Fennec fox pants during hot sunny day

.....

9. Mangrove tree has long and strong roots.
.....

10. Kapok tree has hand-shaped leaves
.....

11. Water lilies have wide floating leaves.
.....

12. Barbary fig has sharp spines.
.....

13. Pine tree has a triangular shape
.....

14. The human body is made up of different systems
.....

15. The inhaled air differs from the exhaled air.
.....

16. Diaphragm plays an important role in respiration process
.....

17. Gills are unique structural adaptation in fish.
.....

18. Owls can hunt during the night
.....

19. Bats can't see in the dark, but they can hunt their prey at night
.....

20. Dolphine can hear all kinds of sound
.....

Question 06 What happens if ?

1. Animals can't adapt in their environment.
.....

2. The polar bear has thin fur instead of its thick fur
.....

3. The fennec fox has black fur
.....

4. Diaphragm moves up in respiration process (during exhalation)
.....

5. The diaphragm muscle contracts and moves down.
.....
6. Your hand touches the spines of a barbary fig plant
.....
7. The Egyptian jerboa hears a snake moves towards it
.....

Question 07 cross the odd word

1. Penguin - Fennec fox - Polar bear - Arctic fox
2. Penguin - Polar bear - Snake - Arctic Fox.
3. Cactus plant – barbary fig – palm tree – mangrove tree
4. Penguin – acacia tree – pine tree – polar bear
5. Nose - Throat - Trachea - Anus
6. Brain – Stomach – Nerves – Spinal cord

Question 08 Answer the following questions

Classify the following into structural and behavioral adaptation

a. Fennec fox during its panting. ( )
b. V-shaped feet of panther chameleon. ( )
c. The colorful scales in desert lizards ( )
d. Sending a smelly message from acacia tree to other trees. ( )

	Concept 1	Concept 2
Q1 choose	From 1 to 47	From 48 to 60
Q2 put true of false	From 1 to 41	From 42 to 50
Q3 complete	From 1 to 12	From 13 to 20
Q4 scientific term	From 1 to 19	From 20 to 27
Q5 give reason	From 1 to 17	From 18 to 20
Q6 what happens	From 1 to 5	From 6 to 7

جميع أسئلة الشيت أسئلة رسميه من امتحانات المحافظات للسنوات السابقة و أسئلة كتاب المدرسة

يمكنكم متابعه الشرح و حل الأسئلة علي قناة كارتون ساينس

تم بحمد الله ،

بسم الله الرحمن الرحيم " إِنَّ الَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ إِنَّا لَا نُضِيعُ أَجْرَ مَنْ أَحْسَنَ عَمَلًا " صدق الله العظيم

Answers

October Questions Bank

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(a) flashlights (b) a smell (c) sounds (d) heat

51 Animals that become active at night are called .....

(a) diurnal animals (b) nocturnal animals (c) extinct animals (d) endangered animals

52 The ..... is the main control center in the body of living organisms.

(a) heart (b) esophagus (c) stomach (d) brain

53 What carries the message from your eyes to your brain when you see something.....

(a) nerves (b) muscle (c) veins (d) glands

54 Owls have all the following properties to sense distant preys, except .....

(a) large eyes (b) a head that turns in all directions
(c) a bowl-shaped face (d) weak sense of hearing

55 Bats use their ..... to get information about their surroundings in the dark.

(a) nose (b) tongue (c) eyes (d) ears

56 The nervous system of mammals consists of .....

(a) the brain only (b) the spinal cord only
(c) nerves and the spinal cord only (d) the brain, the spinal cord and nerves

57 .....is the mating season of humpback whales

(a) summer (b) winter (c) spring (d) fall

58 Sense organ collect information and send signals to..... for processing.

(a) hands (b) legs (c) brain (d) stomach

59 ..... use echolocation by bouncing high-pitched sounds in the air.

(a) Bats (b) Dolphins (c) Whales (d) Snakes

60 Locating food is the role of .....

(a) Queen ants (b) Nurse ants (c) Scoat ant (d) Soldier ants

Question 02 put (true) or (false)

1. Thick white fur is an adaptation in bears that live in polar regions ✓
2. Black bears have dark fur to hide among trees. ✓
3. Fennec foxes live in deserts, while caracals live in forests ✗
4. The body of a polar bear is covered with thick fur. ✓
5. In polar environment, the sandy-colored fur of caracal help it blend in with snow ✗
6. The ears of arctic fox are longer than those of fennec fox ✗
7. All type of sharks live in fresh water. ✗
8. Foxes have a strong sense of hearing. ✓
9. The migration of birds to search for food is considered a form of behavioral adaptation ✓
10. Some animals that live in cold have a long ears, to help it to maintain the body temperature ✗
11. Adaptation is the change of the structure or behaviour of an organism's body to survive. ✓
12. Polar bears have extra-large ears to lose heat ✗
13. Fennec foxes feed on fruits only ✗
14. Living organisms can adapt their environmental conditions through structural adaptation and behavioral adaptation. ✓
15. The behavioral adaptation is a change in the body structure of a living organism to survive. ✗
16. Acacia trees grow in the Amazon Forest. ✗
17. Plants have two types of adaptation, structural and behavioral ✓
18. The needle leaves of pine trees help them lose water. ✗
19. Animals can't eat barbary figs because of their sharp spines. ✓
20. The stomach is an important organ in the digestive system ✓
21. All living organisms need food and oxygen gas to get energy ✓
22. Digestion process begins in the stomach with the help of saliva ✗
23. We eat food to obtain energy. ✓
24. Teeth crush food inside your mouth during chewing. ✓

25. The absorption of the digested food takes place in the stomach. ✗
26. The large intestine absorbs nutrients from the waste. ✗
27. Food passes from mouth to stomach through a narrow tube known as small intestine. ✗
28. Exhaled air carries carbon dioxide. ✓
29. Respiratory system is the system responsible for entering air to the body. ✓
30. During exhalation, the diaphragm expands. ✓
31. During inhalation, the diaphragm moves down ✓
32. Carbon dioxide gas is important for the respiration of animals. ✗
33. The esophagus is an important organ in the respiratory system ✗
34. The lungs are important organ in the respiratory system ✓
35. The diaphragm is an important organ in the digestive system ✗
36. Man cannot restore the ecosystem with any way ✗
37. Water pollution affects fish, but doesn't affect humans or plants. ✗
38. Amphibians include frogs and salamanders. ✓
39. Frogs are reptiles, while panther chameleons are amphibians. ✗
40. Frogs breathe using their gills ✗
41. Both salamander and fish can breathe in through lungs ✗
42. The sense of hearing of dolphin is stronger than that of human ✓
43. Your sense of hearing allows you to see the light of a flashlight ✗
44. The heart is an important organ in the nervous system ✗
45. Dolphins have strong sight sense. ✗
46. The brain responsible for processing information ✓
47. Bats use their sense of smell to avoid dangers ✗
48. Snakes have the ability to rotate their heads in all directions ✗
49. The nervous system works separately from the five senses. ✗
50. Whales can communicate with each other by using songs. ✓

Question 03 complete the following sentences using the word between brackets

1. A camel store ..... in its hump to adapt to the desert environment (fats - proteins)
2. The blood vessels in a penguin's feet bring .....blood up (cold - warm)
3. A polar bear has.....fur to stay warm in cold weather. (white - thick)
4. Bull sharks can live in ..... (fresh water - salt water – both)
5. A burrow is an excellent place for fennec foxes to stay..... during the day (warm - cool)
6. The fat layer under the animal's skin to warm it is an .....adaptation (structural - behavioral)
7. The leaves of ..... trees look like your hand. (kapok - acacia)
8. Mangroves trees grow in..... (Fresh water - salt water)
9. ..... mix and grind food inside the mouth (teeth only - teeth and tongue)
10. A tube with muscles that help push food into the stomach, called..... (Trachea - Esophagus)
11. Human body uses (respiratory - digestive) system to get nutrients from food
12. lungs are one of the important organs in (respiratory- digestive) system
13. The echo sound feature depends on ..... (hearing sense - sight sense)
14. Most animals have ..... senses than humans. (weaker – sharper)
15. Dolphins can locate their prey in dark water using their..... sense. (hearing - sight)
16. An owl can rotate its ..... in all directions. (eyes – head)
17. The spinal cord is an important organ of the (nervous - digestive) system
18. The eye sends messages to the.....through the nerves. (brain - spinal cord)
19. The skin is an important organ of the (Respiratory - Nervous) system
20. The songs of Hamp back whales have a (higher- lower) pitch in summer

Question 04 write scientific term for each of the following

1. It covers the body of some types of bears to blend in with snow and keeps their bodies warm. — Thick white fur

2	A type of adaptation that helps the living organism to blend in with the surrounding environment	camouflage
3	It's a bird that has weaved blood vessels in its feet and toes.	penguin
4	A reptile that its body is covered by colored scales and has V-shaped feet.	Panther chameleon
5	A type of foxes has a tan-colored fur.	Fennec fox
6	It's a change in the structure of the living organism's body to cope with its environment conditions.	Structural adaptation
7	It's a strategy of camouflage that helps the bull shark sneak up on its prey.	countershading
8	It's the change in a living organism's body or its behaviour to be able to survive in its environment.	adaptation
9	The fox that has extra-large ears to lose its heat	fennec fox
10	A feature in bull shark, in which the lower surface of its body is lighter than its upper surface	countershading
11	It is a tree that is found in snow and has a triangle shape.	Pine tree
12	An organ through which solid wastes of digestion leave body	Anus
13	A process of breaking down food into smaller parts that the body cells absorb and use to get energy and grow.	Digestion process
14	A large muscle that contracts during breathing in and relaxes during breathing out.	Diaphragm
15	It allows the air to pass from the nose to the trachea.	Throat (pharynx)
16	They're air sacs surrounded by blood vessels in the respiratory system.	alveoli
17	A gas presents in air and water, and is very important for breathing process	Oxygen gas
18	It's the structure that helps fish to respire under water.	gills
19	They're living organisms that live in a moist environment and have two ways of respiration	Amphibians
20	A system that controls all the body functions, and nerves are one of its parts.	Nervous system
21	An animal that can turn its head backwards, and has a bowl-shaped face and large eyes	Owl
22	The time taken by an organism's body to respond to different reactions	reaction time

23. The organ which receives the smell of pizza — nose
24. The organ responsible for processing information transmitted to it then send messages to the sensory organ — Brain
25. The system that consists of brain, spinal cords and nerves. — Nervous system
26. A group of ants which is responsible for sending smelly messages when there is a shortage of food. — Nurse ants
27. Ants send smelly message to alert the ants where to find food — Scout ants

Question 05 — Give Reason for each of the following

1. Fennec fox has sandy-colored fur
   Fennec fox has a sandy- colored fur to blend in with the desert
2. The polar bear has thick white fur.
   Thick fur to stay warm - white fur to blend in with snow
3. The blood vessels in penguin feet weaves around each other
   To keep the toes from freezing
4. The body of chameleon is covered with colored scales.
   To make camouflage
5. Chameleons can move each of their eyes in a different direction, this adaptation helps them
   find food – look out for danger
6. Fennec fox has extra-large ears, while arctic fox has short ears.
   Extra-large ears help fennec fox to lose heat and cool its body,
   arctic fox has short ears to stay warm
7. Panther chameleon has V-shaped feet and a long tail.
   To hold the branches of trees
8. Fennec fox pants during hot sunny day
   To cool its body
9. Mangrove tree has long and strong roots.
   To resist the water waves
10. Kapok tree has hand-shaped leaves
    To allow wind to move gently through them without tearing leaves

11. Water lilies have wide floating leaves.
To absorb a large amount of sunlight – to float on water

12. Barbary fig has sharp spines.
To prevent animals from eating its fruits and leaves

13. Pine tree has a triangular shape
To allow the snow slide easily

14. The human body is made up of different systems
To perform different functions

15. The inhaled air differs from the exhaled air.
Inhaled air rich in oxygen gas, exhaled air rich in carbon dioxide gas

16. Diaphragm plays an important role in respiration process
During inhalation diaphragm move down (to increase chest size)
During exhalation diaphragm move up (to decrease chest size)

17. Gills are unique structural adaptation in fish.
Fish use gills to respire oxygen under water

18. 📖 Owls can hunt during the night
Because owl is nocturnal animals with sharp hearing sense it uses echolocation to find prey

19. 📖 Bats can't see in the dark, but they can hunt their prey at night
Because they depend on echolocation to locate (find) their prey at night

20. Dolphine can hear all kinds of sound
Because dolphin has super sense of hearing and depend on hearing to locate objects

Question 06 What happens if ?

1. Animals can't adapt in their environment.
They cannot survive and reproduce

2. The polar bear has thin fur instead of its thick fur
It cannot adapt in its cold environment

3. The fennec fox has black fur
It cannot hide in desert (cannot make camouflage)

4. Diaphragm moves up in respiration process (during exhalation)
the air rich in carbon dioxide comes out of the lungs, the size of chest decreases

5. The diaphragm muscle contracts and moves down.
the air rich in oxygen enter the lung, the size of chest increases

6. Your hand touches the spines of a barbary fig plant
The hand will move away quickly

7. The Egyptian jerboa hears a snake moves towards it
It hops quickly in zigzag pattern

Question 07 cross the odd word

1. Penguin - Fennec fox - Polar bear - Arctic fox — Fennec fox
2. Penguin - Polar bear - Snake - Arctic Fox. — Snake
3. Cactus plant – barbary fig – palm tree – mangrove tree — Mangrove tree
4. Penguin – acacia tree – pine tree – polar bear — Acacia tree
5. Nose - Throat - Trachea - Anus — Anus
6. Brain – Stomach – Nerves – Spinal cord — stomach

Question 08 Answer the following questions

Classify the following into structural and behavioral adaptation

a. Fennec fox during its panting. — behavioral adaptation.
b. V-shaped feet of panther chameleon. — Structural adaptation
c. The colorful scales in desert lizards — Structural adaptation
d. Sending a smelly message from acacia tree to other trees. — behavioral adaptation

	Concept 1	Concept 2
Q1 choose	From 1 to 47	From 48 to 60
Q2 put true of false	From 1 to 41	From 42 to 50
Q3 complete	From 1 to 12	From 13 to 20
Q4 scientific term	From 1 to 19	From 20 to 27
Q5 give reason	From 1 to 17	From 18 to 20
Q6 what happens	From 1 to 5	From 6 to 7

جميع أسئلة الشيت أسئلة رسميه من امتحانات المحافظات للسنوات السابقة و أسئلة كتاب المدرسة

يمكنكم متابعه الشرح و حل الأسئلة علي قناة كارتون ساينس

تم بحمد الله ،

بسم الله الرحمن الرحيم " إِنَّ الَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ إِنَّا لَا نُضِيعُ أَجْرَ مَنْ أَحْسَنَ عَمَلًا " صدق الله العظيم

Q1 Give reason

1) The starred agama lizard always looking for shade areas in desert
   To keep its body cool during hot days
2) The penguin's body has a thick layer of fat and dense feathers
   To keep its body warm
3) The blood vessels in the penguin's feet weave around each other
   To keep its toes from freezing as the warm blood vessels heat up the cold blood vessels
4) Some desert lizards have colorful scales
   To hide among the colorful rocks in the desert
5) Fennec fox has sandy/tan colored fur, while polar bear has a white fur
   So, the fennec fox can hide in the sand while the polar bear can blend in with snow
6) Some animals have the ability to make camouflage adaptation
   To hide from their predators or prey in different environments
7) Fennec fox undergoes panting
   To cool its body
8) Arctic fox has a thick fur coat
   To keep its body warm in extreme cold weather
9) The fur of the Arctic fox is white in winter and brown in summer
   To sneak up on its prey in any season
10) Burrow is an excellent place for arctic and fennec foxes
    For Fennec fox to stay cool during sunny days while Arctic fox to stay warm at night

11) Fennec fox has extra-large ears, while arctic fox has short ears
To help Fennec fox to lose heat and cool its body while arctic fox to stay warm
12) Bull sharks have less competition for finding food on fresh water
Because other types of sharks live in salt water only
13) panther chameleon has V shaped feet and a long tail
To hold tightly the branches of trees
14) Branches of acacia tree gather on the top of its trunk
To prevent animals from reaching their leaves and eating it
15) Acacia tree has sharp spines around its leaves
To prevent animals from eating their leaves
16) wind is important to acacia tree
To send smelly messages to nearby acacia tree to start making poison if there is danger
17) kapok tree has hand shaped leaves
To allow wind to move gently through the leaves without tearing them
18) kapok trees stay firmly rooted in the soggy soil although they are very tall
Because of the large wide roots called buttress roots that hold the trunk in the soggy soil
19) pine tree has a triangular shape and short branches
To allow the snow to slide easily over it so the branches do not break
20) water lilies have wide floating leaves
To absorb a large amount of sunlight
21) mangrove trees have long and strong roots
To resist the water waves
22) palm trees have thick roots and small leaves
To resist the strong winds

23) Barbary fig has sharp spines
To prevent animals from eating its fruits and leaves
24) the human body is made up of different systems
To perform different functions
25) the importance of juices of liver and pancreas
to help in breaking down food into nutrients
26) Anus is an important organ in the digestive system
Because solid wastes can leave the body through it
27) the inhaled air differs from the exhaled air
Because the inhaled air is rich in oxygen gas while the exhaled air is rich in carbon dioxide gas
28) diaphragm plays an important role in respiration process
Because it contracts and moves downward during inhalation to increase the size of chest while it relaxes and moves upward during exhalation to decrease the size of the chest
29) Gills are unique structural adaptation in fish
Because they enable fish to breathe oxygen underwater
30) cars and factories exhaust cause breathing problems
Because they produce smog which causes damage to the lungs, asthma, and heart diseases
31) sometimes people in big cities are forced to change their lifestyles
To decrease air pollution
32) Skin of fish is different from that of frog, although both of them live in water
Because frog's skin can absorb oxygen gas from water while fish cannot
33) Dry season is very harmful for amphibians
Because their skin must be wet all the time to extract oxygen gas from water

34) Pollution of air and water can affect the survival of amphibians
Because they breathe oxygen gas from water and air
35) Scientists must study how amphibians interact with their environments
To help them survive
36) The Egyptian mongoose make sounds
To communicate with other mongoose to move from one place to another or when searching for food
37) Owls can hunt during the night
Because they have extraordinary senses of hearing and sight to hunt at night
38) Dogs are used in guarding
Because they have sharp senses of hearing and smell
39) Dolphins can hear all kinds of sounds
Because they have sharp senses of hearing
40) Animals that live in hot regions become active at night
To hunt in cool weather
41) Owls have bowl shaped faces
To detect the location of their preys through picking up sounds around them
42) Bats can catch insects in the dark
Because they depend on echolocation to find insects at night
43) Owl is a nocturnal animal
Because it becomes active at night
44) The Egyptian Jerboa can jump for long distances
Because it has long hind legs to jump for long distances
45) The presence of hair on the Egyptian Jerboa's feet and toes
To help it catch the sand when it jumps

46) The Egyptian Jerboa's ears play a very important role in its survival
Because it has large and sensitive ears that detect even a quiet snake
47) Humans can recognize the sounds of different musical instruments
Because ears receive the different sounds and transmit them to the brain to be processed and determine the type of musical instrument
48) The brain has an important function in the nervous system
Because it is the main control center of the body
49) The songs of humpback whales have high pitched sounds during winter months
Because high pitched sounds travel better through cold water
50) Humpback whales sing different songs
TO communicate with each other in different seasons
51) the nurse ants send smelly messages to scout ants
To alert the scout ants that the food is low
52) the soldier ants use smells in their communication
To communicate with the other ants in case of danger
53) The echo that is picked up by the special cane of blind people is turned into vibrations
To tell the blind person where objects are around him
54) The blind people cannot hear the sound that emits from their special canes
Because their special canes emit a high-pitched sound that human's ears cannot hear

Q2 What happens if

1) The warm blood vessels and cold blood vessels in the penguins' feet do not weave around each other
   Penguins' toes will freeze
2) The polar bear has thin fur instead of thick fur
   It cannot adapt with the cold weather in the polar region, and it will die
3) The body of fennec fox is covered with black fur
   It cannot hide in the desert from prey or predators
4) some types of lizards are not able to make camouflage adaptation
   They cannot hide from prey or predators
5) Arctic foxes have a brown coat during winter, but it turns white during summer
   It cannot hide from its prey in winter or summer
6) Fennec fox has short ears
   It cannot cool its body
7) Sense of hearing becomes weak in foxes
   They cannot hunt their prey
8) Arctic fox has only a white coat during all seasons of the year
   It cannot sneak up on its prey in the summer
9) Both eyes of panther chameleon move in one direction only
   It cannot hide from its prey and predators
10) Panther chameleon is exposed to danger
    It puffs up its body with air, opens its mouth wide and changes the color of its scales

11) the length of acacia taproot does not exceed three meters downward

It cannot search for water in the deep soil

12) the acacia leaves are not guarded by sharp spines

Animals can eat these leaves

13) there are no buttress roots in the kapok tree

Kapok tree cannot stay firmly in the soggy soil

14) the pine tree has an umbrella shape not a triangular shape

The snow cannot slide easily over its branches so branches can break down

15) some plants of rainforest habitat became very short

The sunlight cannot reach these plants easily

16) water lily has narrow leaves instead of wide leaves

It cannot absorb a large amount of sunlight

17) palm tree has thin roots and large leaves

It cannot resist the strong winds

18) the small intestine is removed from the human body

The digestive system cannot perform its function properly

19) the nutrients absorbed by the walls of small intestine enter the tiny blood vessels

The blood carries these nutrients to all body parts

20) the diaphragm moves downward during inhalation

The size of the chest increases and the air rich in oxygen gas enters the lungs

21) the diaphragm moves upward during exhalation

The size of the chest decreases and the air rich in carbon dioxide gas comes out of the lung

22) human activities and bad habits increase
Air, water, and soil pollution will increase
23) the exhaust from cars and factories increases in big cities
Smog increases causing breathing problems such as damage of lungs, asthma, and heart diseases
24) water pollution increases (for human and fish)
Human cannot find clean water to drink, and fish cannot find clean water to breathe
25) pollution level increases in the natural habitat of amphibians
The number of amphibians will decrease
26) the ecosystem of amphibians contains clean air and water
Amphibians will survive and their number increase
27) Amphibians do not have lungs and breathe only through skin
They can live only underwater
28) the number of predators of amphibians increases
The number of amphibians will decrease
29) salamanders have lungs only to respire
Salamanders can live on land only
30) skin of frogs becomes dry
They cannot survive
31) the sound waves produced by a dolphin hit an object under water
It bounces back to the dolphin in the form of echo so the dolphin can detect the location of the object
32) Bats lose the ability to hear by using echolocation property
They cannot hunt at night
33) Owls cannot turn their heads in all directions
They cannot search for preys everywhere
34) Your hand touches the spines of a barbary fig plant
Your hand will move quickly away

35) The Egyptian Jerboa hears a snake moves towards it
It hops in zigzag path so it can escape quicky
36) The spinal cord became absent from the components of the nervous system
Messages cannot be transmitted between brain and body parts
37) sensory receptors related to the eyes stopped sending messages to the brain
Brain cannot process what the eyes see
38) The hearing sense of humpback whales becomes weak
They cannot communicate by songs using their hearing sense
39) The smell sense of ants becomes weak
They cannot communicate with each other by smelling messages
40) the amount of food in the ant's colony decreases
The nurse ants send a smelly message to the scout ants to alert the ants where to find food
41) there is a danger near an ant's colony
The solider ants send smelly messages to alert the other ants that there is danger
42) High-pitched sound that is produced by the blind person's cane hits an object
It bounces back to the cane in the form of echo which is turned into vibrations
43) bats cannot use echolocation property
They cannot communicate with each other or locating the objects by the sense of hearing
44) There is a wall in front of a blind person who uses his special cane
The cane will make vibrations that tell the blind person that there is a wall in front of him

Question 1: choose the correct answer

1- Adaptation helps living organisms in all of the following Except .....

a) Surviving b) reproduction c) hiding d) death

2- Penguins' feet have blood vessels that bring ..... up from feet towards its body

a) Cold water b) warm water c) cold blood d) warm blood

3- Fennec Fox and caracal have ..... that help them blend in with the desert

a) Colorful scales b) thick white fur c) sandy colored Fur

4- The panting of fennec fox is considered .....

a) Only structural b) only behavioral c) both of them

5- All the following properties help the arctic fox to stay warm except .....

a) Thick fur coat b) tan colored c) short ears and legs

6- One of the behavioral adaptations of acacia tree is that .....

a) Has one very long root

b) Has sharp spines around its leaves

c) Produce poison to make the leaves taste bad

7- Mangrove trees have long and strong roots to .....

a) Resist the strong wind

b) Resist the water waves

c) Prevent loss of water

8- All the following are organs of the digestive system except .....

a) Mouth b) nose c) stomach d) esophagus

9- Crushing the food in the mouse is the function of .....

a) Stomach b) tongue c) saliva d) teeth

10- The undigested food passes from the small intestine to .....

a) Liver b) pancreas c) large intestine

11- The passage of air during inhalation is .....

a) Throat – nose -lungs -trachea

b) Lungs – nose-trachea -throat

c) Nose-throat-trachea-lungs

12- Both human and fish .....

a) Can breathe in air

b) Can breathe in water

c) Use oxygen gas to breathe

d) Use carbon dioxide gas to breathe

13- The negative effects of human activities on human health are .....

a) Lung damage and asthma

b) Asthma and wounds

c) Heart problems and wounds

14- Animals that become active at night are called

a) Extinct animals

b) Endangered animals

c) Nocturnal animals

15- The root of kapok tree doesn't grow deeply in the soil because.....

a) The soil contains less water

b) The soil contains more water

c)The climate is very cold

d)The climate is very hot

16-The system responsible for moving your hand away from danger such as touching a hot cup of tea is the ..... system

a) Digestive system

b) Respiratory system

c)Nervous system

d)Stomach

17- Songs of humpback whales in winter are characterized by each of the following except

a) It is for mating season

b) Moving better through cold water

c)Having soft sounds

d)Having low pitched sounds

18- Humans can help restore the ecosystem by all of the following activities except .....

a) Replanting the cleared forests

b) Removing air and water pollutants

c)Producing more factories exhausts

d)Preserving existed plants and animals

19-In penguins' body, the insulting layer of fat and dense feathers trap ..... against the skin

a) Cold air

b) Cold water

c)Warm water

d)Warm air

20-..... is considered as a behavioral adaptation in the panther chameleon

a) Puffing up its body during danger

b) Each eye can move independently

c)V shaped feet

d)Long sticky tongue

21-From the structural adaptation of water lily plant is that .....

a) It has long roots

b) It has sharp spines

c)It has tiny leaves

d)It has wide leaves

22- Bears that live in forests have fur ..... that of polar bears

a) Whiter than

b) Darker than

c)Similar to

d)Brighter than

23-All the following properties are considered as structural adaptations in the panther chameleon except .....

a) Each eye can move independently

b) Opening its mouth wide at danger

c)V shaped feet

d)Long sticky tongue

24- Pine tree has a triangular shape to make snow slide over its branches without breaking it. This structural adaptation makes the tree face the extreme cold climate like the feet of .....

a) Caracal

b) Penguin

c)Fennec fox

d)Brown bear

25-Camouflage means that animal .....

a) Can be seen easily among its surroundings

b) Is hard to be seen among its surroundings

c)Is easily to be seen by its preys

d)Can be seen easily by its predators

26-The five senses of humans and animals include

a) Sight-hearing-touch-smell-movement

b) Sight-movement- taste-touch-smell

c)Taste-touch-movement-hearing-smell

d)Sight-hearing-taste-smell-touch

27- Umbrella shaped trees include

a) Mangrove tree and acacia tree

b) Mangrove tree and kapok tree

c)Acacia tree and kapok tree

28-fennec foxes and arctic foxes live in barrows, this belongs to ..... adaptation

a) Only structural

b) Only behavioral

c)Both structural and behavioral

d)Neither structural nor behavioral

29-The blind person's cane and ..... emit a high-pitched sound that bounces off objects forming an echo

a) Lizards

b) Polar bears

c)Bull sharks

d)Bats

30-The nervous system can do all the following functions except.....

a) Gathering information

b) Processing information

c)Sending signals

d)Falling of rains

31-One of the behavioral adaptations that helps the animal to protect itself from enemies

a) Camouflage

b) Extinction

c)Migration

d)Reproduction

32-bats are ..... animals

a) nocturnal

b) morning

c)not hearing

d)not flying

33-The roots of palm plants help them to .....

a) Stand strong against the wind

b) Reach the underground water

c)Fixing plants in the soil

d)All the above

34-..... is covering the body of arctic fox

a) Heavy skin

b) thick fur

c)Many feathers

35-..... are panting to lower their body temperature

a) Whales

b) Owls

c)Foxes

d)Bats

36-what happens to the living organisms that cannot adapt to the conditions of their environment

a) Their number increases

b) They can’t stay in the environment

c)They keep their number constant

d)They can survive in the environment

37-the system that helps us to translate messages that come from our surroundings such as smells and sound

a) Respiratory

b) Digestive

c)Nervous

d)Circulatory

38-the organ responsible for the sight sense is .....

a) The ear

b) The tongue

c)The nose

d)The eye

39-an animal has the ability to turn its head in all directions is the

a) Snake

b) Jerboa

c)Dolphin

d)Owl

40-all of the following are components of the nervous system except

a) Spinal cord

b) Heart

c)Nerves

d)Brain

41- the nervous system of mammals consists of .....

a) Brain only
b) Spinal cord only
c) Nerves and spinal cord
d) Brain, spinal cord and nerves

42- owls have all the following properties to sense distant prey except .....

a) Large eyes
b) Bowl shaped face
c) Head turns in all directions
d) Weak sense of hearing

43- if you smell smoke from something burning nearby then you realize you have to move away fast. This mean there is an integration between ..... in this situation

a) Digestive and respiratory system
b) Digestive and nervous system
c) Respiratory and nervous system

44- sense organs collect information and send signals to ..... for processing and understanding

a) Hands b) legs c) brain d) stomach

45-..... use echolocation by bouncing high bitched sound in air

a) Bats b) dolphins c) whales

Question 2: put true or false

1) Digestion process begins in stomach with the help of saliva ( )
2) Living organisms can adapt their environment conditions through structural adaptation and behavioral adaptation ( )
3) Food passes from mouth to stomach through a narrow tube called small intestine ( )
4) The Egyptian Jerboa can jump long distances depending on its long hind legs ( )
5) The behavioral adaptation is a change in the body structure of a living organism to survive ( )
6) Sharp spines are adaptation of different plants to prevent animals from eating them ( )
7) During exhalation, the diaphragm expands ( )
8) The sandy colored fur of caracal helps it blend in with snow in polar environment ( )
9) The inhaled air is rich in carbon dioxide while the exhaled air is rich in oxygen ( )
10) In penguin's feet, the cold blood vessels can warm up the warm blood vessels ( )
11) Camouflage helps animals adapt the extreme weather conditions in their ecosystem ( )
12) Amphibians includes frogs and salamanders ( )
13) Some animals prefer hunting during the night than hunting during the day ( )

14) Eyes are one of the five senses, on which humans and animals depend on to see the surroundings ( )
15) As human needs clean water to drink, fish needs clean air to breathe ( )
16) The desert lizard blend in with large green trees, to hide from its enemies ( )
17) Humpback whales produce more than one type of songs ( )
18) Exhaled air carries oxygen ( )
19) Hand shaped leaves of kapok tree is considered behavioral adaptation ( )
20) A person can identify spoiled food through the touch sense ( )
21) The migration of birds to search for food is behavioral adaptation ( )
22) The skin is the sensory organ that makes you feel the smoothness of the cloth ( )
23) The respiratory system is responsible for the entry of air into the body ( )
24) Dolphins have strong sight sense ()
25) Some animals can see at night ( )
26) Bats can use their sense of smell to avoid danger ( )
27) The ears are the sense organ which is responsible to see objects ( )
28) The human digestive system breaks down food into nutrients ( )
29) Foxes have strong hearing sense ( )

30) Food turns from complex to simple during the digestion process ()
31) The food passes through the large intestine before it goes to small intestine ( )
32) The ears or arctic fox are larger than of those of fennec fox ( )
33) All types of sharks live in fresh water
34) Sending bad smells by acacia tree is a behavioral adaptation ( )
35) Acacia has long wide roots called buttress roots ( )
36) The brain is responsible for processing information ( )

Question 3: What happens if

1) The diaphragm moves down during inhalation while it moves up during exhalation
2) The length of acacia taproot doesn't exceed 3 meters downward
3) The amount of food in the ant's colony decreases
4) Bats cannot use echolocation property

Question 4: complete the following sentences

1) As the pollution rate of water in ponds and air increases, the number of amphibians .....
2) The hand shaped leaves of kapok tree allow ..... to flow through them gently
3) The leaves of water lilies are wider in order to ..... on the water surface and to absorb a large amount of .....
4) The ..... is the organ that sends information to the brain when you smell the odor of a perfume
5) During swallowing, the food passes from the throat to the ..... then to the ..... inside your digestive system
6) During inhalation, air travels down from your throat to your lungs through .....
7) On hearing an alarm ring, the sensory receptors that are found in the ..... send a message through a network of nerves to the ..... which determines what to do to avoid danger
8) When you touch a very hot object, your hands move quickly away, this action is called .....
9) Among animals that can live in polar environment are ..... and .....
10) Echolocation is a type of communication that depends on the sense of ..... and it is used by some animals such as ..... and .....

11) Humans, amphibians, and reptiles have ..... to breath oxygen gas in air
12) Owls can detect prey by using the sharp senses of ..... and .....
13) During exhalation ..... gas comes out of the lung
14) Fish have ..... to breathe under water while frogs use their ..... to breath in water
15) The spinal cord is an important organ of the ..... system
16) The eye sends messages to ..... through the nerves
17) Bats use ..... as a mean of communication with each other
18) A tube with muscles that help to push food into the stomach is called .....
19) Air enters the human body through ..... system

Question 5: write the scientific term

1) A structural adaptation that fixes the kapok tree in soggy soil and supports its trunk ( )
2) It delivers messages between the spinal cord and different body organs ( )
3) An animal that can turn its head backwards and has a bowl-shaped face and large eyes ( )
4) The time taken by an organism's body to respond to different reactions ( )
5) A group of ants which is responsible for sending smelly messages when there is a shortage of food ( )

6) A structural adaptation that prevents the loss of water in the pine tree ( )
7) The organ used to differentiate between different scents ( )
8) They include the eyes, nose, ears, tongue and skin and they receive information from the surroundings and send it to the brain ( )
9) A large muscle that contracts during breathing in and relaxes during breathing out ( )
10) A property that helps animals blend in with their surrounding environments ( )
11) A system that controls all body functions and nerves are one of its parts ( )
12) A type of foxes that has sandy colored fur to adapt its desert environment ( )
13) A plant lives in salt water and has long strong roots to resist the water waves ( )
14) An organ in the human digestive system that has tiny blood vessels to absorb the nutrients through its walls ( )
15) A feature in the bull shark in which the upper surface of its body is darker than its lower surface ( )
16) The organ used to differentiate between the taste of different types of food ( )
17) A process through which the body gets oxygen from the air and expels out carbon dioxide ( )

18) An animal that has multiple bright colors to provide camouflage in its environment and has a v shaped foot ( )
19) A group of ants which is responsible for protecting the colony from dangers ( )
20) An animal that has a thin layer of fat and dense feathers to adapt extreme cold weather ( )
21) A gas present in air and water and is important for breathing ( )
22) The organ through which solid wastes leave the body ( )
23) The process of breaking down food into smaller parts ( )

Question 6: Give reason for the following

1) branches of acacia tree are gathered on the top of its trunk
2) Some animals have the ability to make camouflage adaptation
3) Gills are unique structural adaptation in fish
4) The inhaled air differs from the exhaled air
5) Fennec fox has extra large ears while arctic fox has short ears
6) The leaves of plants that float above the surface of water are so wide
7) Barbary fig has sharp spines
8) Mangrove tree has long and strong roots
9) Panther chameleon has a V shaped feet and a long tail
10) Bats can catch insects in the dark

Q7: cross out the odd word

1- Penguin – polar bear – Fennec fox – Arctic Fox
2- Nose- Throat- Trachea - Anus

Model Answer

Q1

1-d, 2-c, 3-c, 4-b, 5-b, 6-c, 7-b, 8-b, 9-d, 10-c, 11-c, 12-c, 13-a, 14-c, 15-b, 16-c, 17-d, 18-c, 19-d, 20-a, 21-d, 22-b, 23-b, 24-b, 25-b, 26-d, 27-c, 28-b, 29-d, 30-d, 31-a, 32-a, 33-d, 34-c, 35-c, 36-b, 37-c, 38-d, 39-d, 40-b, 41-d, 42-d, 43-c, 44-c, 45-a

Q2

1-F, 2-T, 3-F, 4-T, 5-F, 6-T, 7-T, 8-F, 9-F, 10-F, 11-T, 12-T, 13-T, 14-T, 15-F, 16-F, 17-T, 18-F, 19-F, 20-F, 21-T, 22-T, 23-T, 24-F, 25-T, 26-F, 27-F, 28-T, 29-T, 30-T, 31-F, 32-F, 33-F, 34-T, 35-F, 36-T

Q3

1- When it moves down, the size of the chest increases and the air rich in oxygen gas enters the lungs while when it moves up, the size of the chest decreases and the air rich in carbon dioxide gas comes out of the lung
2- It cannot search for water in the deep soil
3- The nurse ants send a smelly message to the scout ants to alert the ants where to find the food
4- They cannot communicate with each other or locate objects

Q4

1-Decrease, 2- wind, 3- float- sun, 4-nose
5-Esophagus-Stomach, 6-Trachea, 7-Ears-brain, 8-reflex
9-penguin-polar bear, 10-hearing-bats and dolphins
11-lungs, 12-Sight-hearing, 13-carbon dioxide gas
14-gills-skin, 15-nervous, 16-brain, 17-echolocation
18-esophagus, 19-respiratory system

Q5

1-Buttress roots, 2-nerves, 3-owl, 4-reaction time,

5-nurse ants, 6-needle leaves, 7-nose, 8-sensory organs

9-Diaphragm, 10-camouflage, 11-nervous system,

12-Fennec fox, 13-mangrove tree, 14-small intestine,

15-countershading, 16-tounge, 17-respiration process

18-panther chameleon, 19-solider ants, 20-penguin, 21-oxygen

22-large intestine, 23-digestion process

Q6

1) To prevent animals from reaching their leaves and eating it
2) To hide from their predators or prey in different environments
3) Because they enable fish to breathe oxygen underwater
4) Because the inhaled air is rich in oxygen gas while the exhaled air is rich in carbon dioxide gas
5) To help Fennec fox to lose heat and cool its body while arctic fox to stay warm
6) To absorb a large amount of sunlight
7) To prevent animals from eating its fruits and leaves
8) To resist the water waves
9) To hold tightly the branches of trees
10) Because they depend on echolocation to find insects at night

Q7

1-Fennec Fox

2-Anus

Choose the correct answer :

1. The starred agama keeps cool during a hot sunny day in desert by.....

a. eating green vegetables.

c. secreting more sweat.

d. finding a shaded area.

b. drinking more water.

2. Adaptation helps the living organism in all the following characters, except.....

a. surviving.

c. hiding.

b. reproduction.

d. death.

3. Penguins live in a polar climate which

a. is one of the hottest places on Earth.

c. looks like the rainy climate.

b. is one of the coldest places on Earth.

d. looks like the forest climate

.

4. Which of the following ways help penguins to adapt to live in polar climate?.....

a. Their bodies are covered with skin.

c. Their bodies are covered with a thick layer of fat only.

feathers and a thick layer of fat

b. Their bodies are covered with dense feathers only.

d. Their bodies are covered with dense

.

5. In penguin's feet,.....

a. warm blood vessels weave around cold blood vessels.

b. warm blood vessels weave around its toes.

d. cold blood vessels weave around dense feathers.

c. cold blood vessels weave around its toes.

6. Penguin's feet have blood vessels that bring..... up from its feet towards its body.

a. cold water **c. cold blood**

b. warm water **d. warm blood**

7. The presence of a thick white fur is an adaptation in.....

a. starred agama lizard. **d. forest bear.**

b. polar bear. **c. fennec fox.**

8. Bears that live in forests have fur..... that of polar bears.

a. whiter than **c. similar to**

b. darker than **d. brighter than**

9. Fennec fox and caracal have..... that help them blend in with desert landscapes.

a. colorful scales **c. sandy-colored feathers**

b. thick white fur **d. sandy-colored fur**

10. Desert lizards have..... that make them hide among the colorful rocks in the desert.

a. tan-colored fur **c. sandy colored feathers**

b. colored scales **d. dark fur**

11. Camouflage means that the animal.....

a. can be seen easily among its surrounding environment.

b. is hard to be seen among its surrounding environment.

c. is easily to be seen by its preys.

d. can be seen easily by its predators.

12. Which of the following birds is more difficult to be seen by its predator?.....

a. A red bird on a green tree. **c. A yellow bird on a green tree.**

b. A blue bird on a green tree. **d. A green bird on a green tree.**

13. The colour of fur of fennec fox protects it from.....

a. wind. **d. cold weather.**

b. rains. **c. hot climate.**

14. Fennec fox has a tan-colored coat that provides..... in its environment.

a. camouflage **b. respiration**

c. panting **d. communication**

15. Panting in fennec fox belongs to..... adaptation.

a. only structura **c. both structural and behavioral** **d. neither structural nor behavioral**

b. only behavioral

16. Fennec fox and arctic fox live in burrows, this belongs to..... adaptation.

a. only structural

c. both structural and behavioral **b. only behavioral** **d. neither structural nor behavioral**

17. All of the following properties help fennec fox to stay cool, except.....

a. thick fur coat. **c. tan-colored coat.**

b. make panting. **d. extra-large ears.**

18. Changing the color of body coat of arctic fox according to season, is considered as a type of.....

a. behavioral adaptation. **b. changing the way of breathing.** **d. changing the way of drinking.**

c. structural adaptation.

19. All of the following properties help arctic fox to stay warm, except.....

a. thick fur coat. **c. tan-colored coat.** **b. short ears.**

d. short legs.

19. Both fennec fox and arctic fox are similar in all of the following, except.....

a. they live in the same habitat.

c. they have excellent hearing ability.

b. they can eat different things.

d. they have different sized ears.

20. All of the following sentences represent the meaning of adaptation, except.....

a. it is the characteristic that helps living things survive.

c. it is the change that helps the animal to find a prey.

b. it is the characteristic that helps living things reproduce.

d. it is the change that causes the death of the animal

.

21. Mangrove tree has long and strong roots to.....

a. resist the strong wind.

c. prevent the loss of water.

d. absorb the underground water

b. resist the water waves.

22. Pine tree has a triangular shape to make snow slides over its branches without breaking it. This structural adaptation makes this tree face the extreme cold climate like the feet of.....

a. caracal.

c. fennec fox.

b. penguin.

23. Barbary fig keeps animals away like acacia trees by its.....

a. sharp spines.

c. smell.

b. poison.

d. long leaves.

24. The energy that the living organism needs to perform different functions is obtained from.....

a. breathing only.

c. breathing and running.

b. food processing only.

d. breathing and food processing

.

25. All of the following are organs of the digestive system, except.....

a. mouth. **c. stomach.**

b. nose. **d. esophagus.**

26. Digestion process begins in the.....

.

a. stomach. **c. mouth.**

b. esophagus. **d. small intestine**

27. Which of the following organs does not share in breaking down of food?.....

a. Mouth. **c. Lungs.**

b. Stomach. **d. Small intestine**

.

28. Crushing the food in your mouth is the function of.....

a. stomach. **c. saliva.**

b. tongue. **d. teeth.**

29. All of the following are correct about the mouth, except.....

a. it is the first organ in the digestive system. **b. it has teeth.** **c. it has tongue.** **d. it moves directly food to the stomach.**

30. Saliva in the mouth makes the food become soft and mushy with the help of.....

a. teeth only. **c. teeth and esophagus.**

b. tongue only. **d. teeth and tongue**

.

31. The throat is connected to the stomach through.....

a. esophagus.
b. trachea.
c. small intestine. d. large intestine.

32. The organ that moves the food into the stomach is.....

a. mouth.
b. tongue.
c. esophagus.
d. small intestine

.

33. The food passes from the stomach to the.....directly.

a. esophagus
b. small intestine
c. large intestine
d. anus

34. The stomach mixes the food with.....

to help in digestion of food.

a. digestive juices only
b. stomach acid only
c. saliva and digestive juices
d. stomach acid and digestive juices

35. The liver and.....

pour their juices into the small intestine.

a. throat
b. esophagus
c. large intestine
d. pancreas

36. The long winding tube that its length is about more than six meters is called.....

a. large intestine.
b. small intestine.
c. esophagus.
d. stomach

.

37. The undigested food pass from the small intestine into the.....

a. liver.
b. pancreas.
c. brain.
d. large intestine.

38. In the large intestine.,.,..... is absorbed from the undigested food.

a. starch
b. fat
c. water

d. oil

39. The solid wastes of undigested food become useless to the body, so the body must expel them outside through the.....

a. mouth. **c. large intestine.**

b. anus. **d. small intestine**

.

40. All organs of the human digestive system are considered as..... adaptation.

a. only structural **c. structural and behavioral**

b. only behavioral

41. During inhalation, air enters through..... then down the throat.

a. nose and trachea **c. mouth and lungs**

b. nose and mouth **d. mouth and trachea**

42. The passage of air during inhalation is

a. throat-nose- lungs - trachea. **c. lungs nose throat - trachea.**

b. trachea -throat-lungs -- nose. **d. nose-throat - trachea - lungs**

.

43. The throat is connected to the lungs through.....

a. esophagus. **c. small intestine.**

b. trachea. **d. ribs.**

44. Inside the two lungs, at the end of the smaller air passages (bronchioles)

there are tiny air sacs surrounded by.....

a. air. **c. small intestine.**

b. water. **d. blood vessels.**

45. Inside the lungs, the trachea is branched into two tubes known as.....

a. alveoli. **b. air sacs.** **c. bronchi.**

d. blood vessels

.

46. The oxygen gas moves from air into blood at the.....

a. nose. **c. trachea.**

b. throat. **d. lungs.**

47. All of the following happen during exhalation, except.....

a. diaphragm relaxes. **c. diaphragm moves upward.** **d. the size of chest decreases.**

b. diaphragm contracts.

. 48. Both of human and fish.....

a. can breathe in air. **d. use carbon dioxide gas to breathe in.** **c. use oxygen gas to breathe in.**

b. can breathe in water.

49. Fish use.....to breath in water

b. eyes **a. tail**

c. lungs **d.gills**

50. Gills differ from lungs, in that gills.....

d. gills **b. expel out carbon dioxide gas.** **c. extract oxygen gas from water.**

a. take in oxygen gas.

60.Gills in fish are considered as.....

d. extract oxygen gas from air. **a. behavioral adaptation.** **b. structural adaptation.**

c. camouflage adaptation.

d. behavioral and structural adaptations.

51.All of the following human activities can negatively affect the nature, except.....

a. cutting down forests. **b. removing air pollutants.** **d. throwing wastes in water**

52.Human activities and bad habits can pollute.....of an ecosystem

c. farming and clearing lands.

b. soil and waterways only

a. air and soil only

d. air, soil and waterways

53. Pollution of an ecosystem can affect.....

c. air and waterways only

of an ecosystem.

a. plants and animals only.

b. animals and humans only.

c. humans and plants only.

d. plants, animals and humans.

54. If the environment is slowly changed, plants.....

to survive and grow.

b. must have buttress roots

c. must decrease their adaptation

a. must have a taproot

d. must land their seeds in another better place

55.From the negative effects of human activities on the human health are.....

a. lung damage and asthma.

c. heart problems and wounds.

b. asthma and wounds.

d-all previous answers

56 :. Human can help restoring ecosystem by all of the following activities, except.....

a. replanting the cleared forests.

c. producing more factories exhausts.

b. removing air and water pollutants.

d. preserving existed plants and anim

57. Amphibians are adapted to live in..... that suits their adaptation.

a. dry environment

b. moist environment

c. arctic environment

d. sandy environment

58.Starred agama and salamander,.....

a. both are reptiles.

b. both are amphibians.

c. the first is a reptile, while the second is an amphibian.

d. the first is amphibian, while the second is reptile.

59. If amphibians have gills and they don't have lungs and also cannot respire through skin, then.....

a. they cannot live outside water. b. they can live outside water.

c. they cannot live under water.

d. they can live in desert landscapes.

60. Amphibians can take in oxygen gas from.....

a. water only.

b. air only.

c. food and air.

d. water and air

61. In rainforests, we can find.....

b. amphibians and fennec foxes.

c. arctic foxes and fennec foxes.

d. panther chameleon and amphibians

.

62. If the number of an animal species becomes zero due to severe changes in its natural habitat, this means that this species.....

a. becomes endangered.

b. becomes extinct.

c. will survive.

d. going to be extinct.

63. Both humans and amphibians breathe in oxygen. Which of the following sentences is correct?.....

a. Both can breathe in oxygen gas through lungs.

b. Both can take in oxygen gas through skin.

c. Humans can breathe in oxygen gas from water and air.

d. Amphibians can breathe in oxygen gas through gills.

: 64.Blood vessels that carry oxygen gas in amphibians, present in.....

a. skin and digestive system.

b. lungs and eyes.

c. digestive system and eyes.

d. skin and lungs.

65. Amphibians, lizards, trees, birds, fish and humans.....

a. some of them need oxygen gas to respire.

b. some of them need carbon dioxide gas to respire.

c. all of them need oxygen gas to respire.

d. all of them need carbon dioxide gas to respire

.

66. If a pond where some frogs live is highly polluted with wastes and viruses.

What you have to do to preserve these frog?.....

a. Fill in the pond with sand.

c. Supply this pond with more oxygen gas.

b. Dry this pond from water.

d. Transfer these frogs to a clean water habitat

.

67. To know if a cup of water is hot or cold, we need to use the sense of.....

a. sight.

c. smell.

b. hearing.

d. touch.

68. We can distinguish between water and milk through.....

a. taste and hearing.

b. sight and hearing.

c. smell and hearing.

d. taste and sight.

69.The sensory organs of a dolphin help it do all of the following, except.....

a. surviving.

c. finding water.

b. finding food.

d. protecting itself under water.

70. If there is some salt in a dish and some sugar in another dish, you can distinguish between them through the sense of.....

a. smell.

c. touch.

b. taste.

d. hearing.

71. The five senses of humans and animals are.....

a. sight, hearing, touch, smell, and movement.

b. sight, movement, taste, touch, and smell.

c. taste, touch, movement, hearing, and smell.

d. sight, hearing, taste, smell, and touch.

72. Echo helps bats and dolphins to locate..... of their preys.

a. the location

b. the color

c. the smell

d. the taste

73. Dolphins depend on their sharp sense of ..... to get food.

a. sight

b. taste

c. smell

d. hearing

. 74.The senses you depend on to find a small radio that produces low sound in a dark room are.....

a. hearing and smell.

b. touch and taste.

d. hearing and touch

.

75. The responsible system for moving your hand away from danger, such as touching a hot cup of tea, is the .....system.

a. digestive

b. respiratory

c. nervous

d. urinary

76. When snakes make a noise, the sensory receptors found in jerboa's .....a warning message to the brain

send

a. ears

b. nose

c. feet

d. teeth

77.The brain is the main control center in the body, so it can deal with..... at the same time.

a. two senses only

b. three senses only

c. four senses only

d. all the five senses

78. Animals that become active at night are called.....

b. nocturnal animals.

c. extinct animals.

a. diurnal animals.

d. endangered animals

.

79.When your hand touches the spines of a cactus plant, it is withdrawn in.....

a. less than one second

c. two minutes.

b . one minute.

d. one hour.

80. When a jerboa hears the sound of a moving snake, it.....

a. remains standing in its place.

b. jumps to hunt the snake.

d. jumps quickly to run away from the snake

.

81. The organ that processes the information collected through the sense of sight is.....

b. nerves.

c. the brain.

a. the spinal cord.

d. eyes.

82. The nervous system of mammals consists of .....

a. the brain only.

c. nerves and the spinal cord only.

b. the spinal cord only.

d. the brain, the spinal cord and nerves.

. 83. Both the spinal cord and nerves.....

a. are located in the brain.

c. transmit messages from the brain to all parts of the body only.

d. transmit messages from the brain to all parts of the body and vice versa

b. are located in the small intestine.

.

84. Which of the following choices explains how the body reacts to the smell of.....

85.food in the correct order?.....

c. Nerves brain nose.

a. Brain nose nerves.

d. Nose nerves brain.

b. Nose. brain.nerves

86. The correct order for a bat to locate a mosquito using echo, is.....

a. mosquito makes a sound reaches the bat returns to mosquito.

c. mosquito makes a sound reaches a wall returns to mosquito.

b. bat makes a sound reaches a wall returns to mosquito.

d. bat makes a sound reaches the mosquito - returns to bat.

87. Owls have all the following properties to sense distant preys that make low sounds, except.....

a. large eyes.

c. a head that turns in all directions.

d. weak sense of hearing.

b. a bowl-shaped face.

88.The owl's large eyes and bowl-shaped face are considered as..... adaptation.

a. only structural

c. both structural and behavioral

d. neither structural nor behavioral

b. only behavioural

90. Flying bats don't hit different objects at night because they can

a. see them clearly in..... darkness.

c. smell them.

d. hear the echo reflected from them

b. touch them.

.

91. Some animals become active during the night due to the following reasons, except that.....

a. the night is characterized by the cool weather.

b. the night is a good time for relaxation and rest.

d. the night is a time when preys are available

c. the night is quiet, so that they can hear preys.

92. Both bats and mosquitoes are active during night. Which of the following statements is correct?.....

a. Both can swim well.

c. Bats prey on mosquitoes.

d. Mosquitoes prey on bats.

b. Both can run fast.

. 93.Your sensation of hot weather depends on sensory receptors in the.....

a. eyes.

b. nose.

c. ears.

d. skin.

94. Recognizing thunder and lightning depends on the senses of.....

a. hearing and sight. **b. sight and smell.**

c. hearing and touch. **d. hearing and taste.**

95. Closing your eyes quickly when strong light rays fall on them suddenly represents.....

b. reflex. **d. camouflage.**

a. inhalation. **c. countershading**

.

96.The nervous system gather information from the environment through then process them by..... and the process them by

a. brain - nerves. **b. nerves - sensory organs.** **C. sensory organs - brain.** **d. spinal cord - brain.**

97. You opened the door of your house when you heard the doorbell. Which of the following statements explains the sequence of messages inside your body in this situation?.....

a. Ears brain hand. **b. Ears hand brain.** **c. Brain ears hand.**

98. You pass the football to a player in your team. Which of the following statements explains the sequence of messages inside your body in this situation?.....

a. Feet nerves brain. **b. Nerves brain →feet.**

c. Nerves feet brain. **d. Brain nerves feet**

.

99. If you smell smoke from something burning nearby, then you realized you had to move away fast. This means that there is an integration between the..... in this situation.

a. digestive system and respiratory system **b. digestive system and nervous system** **c. respiratory system and nervous system d.**

nervous system and
urinary system

100. All the following are from the importance of the nervous system in mammals, except.....

a. gathering information. **b. pushing blood through blood vessels.** **c. sending signals to the body parts to react.**

d. translating information.

.100when there is a shortage of food is the role of.....

c. scout ants. **a. queen ants.**

d. soldier ants. **b. nurse ants.**

101. Locating food is the role of.....

a. queen ants. **c. scout ants.**

b. nurse ants. **d. soldier ants.**

102. Alarming the colony from dangers

is the role of.....

a. queen ants. **C. scout ants.**

b. nurse ants. **d. soldier ants.**

102.Humpback whales sing during ..... months, which is the mating season.

a. winter **c. spring**

b. summer **d. autumn**

103.Sense organs collect information and send signals to .....for processing and understanding

a. hands **d. stomach**
b. legs
c. brain

104. Bats use their..... to get information about their surroundings in the dark.

Nose **a.**
eyes **b. ears**
tongue

105. Echolocation in some animals is the use of..... pitched sounds for finding food. a. medium

b. low c. very low d. high

106. .....use echolocation by bouncing high-pitched sounds in the air

a.bats c. Whales

b. Dolphins d. Snakes

107. The echo is turned into..... that a blind man can feel in his thumb while holding his special cane.

a. vibrations c. heat and

b. light d. water

108.The blind person's cane and .....emit a high-pitched sound that bounces off objects forming an echo.

a. lizards c. bull sharks

b. polar bears d. bats

109.Songs of humpback whales in winter are characterized by each of the following except.....

a. having high-pitched sounds. b. travelling better through cold water. d. having low-pitched sounds

c. having soft sounds.

.

110. All the following sentences describe humpbacks' life, except.....

a. they can communicate in cold and warm water. C. they have a weak hearing sense. d. they communicate with each other through sounds

b. they mating in winter months

Put (v) or (x):

1. The desert lizard blend in with large green trees, to hide from its enemies.( )

2. Animals that live in hot deserts have special ways to keep their bodies cool during hot sunny days(.)

3. Living organisms can survive and reproduce in different environments by the help of adaptation.(.)

4. Penguin's body is covered with dense feathers and a thin layer of fat to keep its body warm(.)

5. Thick white fur is an adaptation in bears that live in polar regions(.)

6. The sandy-colored fur of caracal helps it blend in with snow in polar environment(.)

7. Some types of lizards have colored feathers to help them blend in with rocks in their ecosystem.(.)

8. Living organisms can adapt their environmental conditions through structural adaptation and behavioral adaptation(.)

9.The behavioral adaptation is a change in the body structure of a living organism to survive.(.)

10. When the snow melts in polar regions, the thick fur coat of arctic fox turns blac(.)

11. The ears of arctic fox are larger than those of fennec fox(.)

12. Fennec fox stays in burrows during day, while arctic fox stays in burrows at night (.)

13. Both fennec and arctic foxes can eat insects, fruit, plant roots and the remains from other animal's prey(.)

14. Fennec fox has sandy-colored fur to help it make camouflage (.)

15. Arctic fox lives in tundra, while fennec fox lives in hot desert (.)

16. Panting and staying in burrows are considered behavioral adaptations in fennec fox (.)

17. All types of sharks live in fresh water(.)

18. If a bull shark moves from a river to a sea, it will die(.)

19. Bull shark uses countershading camouflage to sneak up on its prey ( )

20.Chameleon uses its tail and V-shaped feet to hunt and move(.)

21. The panther chameleon has teeth and claws, through which it can hunt and eat its prey(.)

22. Starred agama lizard use one of its eyes to search for food and the other one to look out for danger(.)

[15/10, 00:54] 23 :😉سوسو.Plants have structural adaptation only to help them survive and grow in different environments.(.)

24. The rain falls for 6 months in Southern African Savannah.(.)

25 The taproot of acacia tree grows deeply downward searching for water. ( )

26. Acacia leaves are protected from being eaten by animals as they have brightly colored leaves(.)

27. Acacia tree has delicious-smelling flowers to attract bats towards it. (.)

28. Acacia tree and kapok tree use wind to send messages(.)

29. Hand-shaped leaves of kapok tree is considered as a behavioral adaptation(.)

[15/10, 00:58] 30 :😍سوسو. Kapok tree produces fluffy yellow seeds, this is considered as a structural adaptation(.)

31.One of the structural adaptations of acacia tree is that it has large, wide(.)

32roots called buttress roots(.)

33. Mangrove trees adapt to resist the water waves through their long, strong roots(.)

34. Water lily has wide leaves to absorb a large amount of sunlight(.)

35. Pine trees that live in desert habitat have needle leaves to prevent the loss of water(.)

36. Having thick roots is a behavioral adaptation of palm trees to resist strong winds.(.)

37. Animals can't eat barbary fig due to its sharp spines(.)

38. Plants of dry desert habitat adapt to store water.(.)

39. Some plants have sharp spines

40.The digestive system consists of similar organs that work together to get nutrients from food(.)

41. The human body gets oxygen gas from food(.)

42. Mouth, nose, esophagus and stomach are from the organs of the digestive system.(.)

43. The food passes through the large intestine before it goes into the small intestine(.)

44. Digestion process begins in the stomach with the help of saliva(.)

45. Tongue and teeth moisten the food, while saliva crushes the food until it becomes soft(.)

46. Food passes from mouth to stomach through a narrow tube known as small intestine(.)

47. Food usually stays in stomach for few hours until it becomes a soupy liquid(.)

48.Stomach mixes the food with juices that come from liver and pancreas(.)

[15/10, 01:04] 49 :😉سوسو. The food gets broken down into nutrients in the small intestine.( )

50. The walls of the small intestine absorb the nutrients through tiny blood vessels then blood carries them to all the body parts.(.)

51. Swallowing food without chewing keeps the digestive system healthy.(.)

52. Digestive system ends by anus(.)

53. The air travels down into the lungs through esophagus(.)

54. During inhalation, the size of chest becomes narrow( )

55. During exhalation, the diaphragm expands. ( )

56. The inhaled air is rich in carbon dioxide gas, while the exhaled air is rich in oxygen gas.( )

57. Human breathes using gills, while fish breathes using lungs(.)

58. Gills are found on one side of a fish's head(.)

59. Both of lungs and gills take carbon dioxide gas inside the body and

release oxygen gas outside the body(.)

60.Gills are unique structural adaptation that allow fish to live and breathe under water(.)

61.As human needs clean water to drink, fish needs clean air to breathe(.)

62.Cutting down rainforests may cause disappearance of starred agama (.)

63. Throwing waste materials in waterways is one of the bad habits that must be stopped(.)

64.The way of survival of animals differ from that of plants, if the ecosystem is rapidly changed.(.)

65. Pollution is one of the most dangerous problems that affect all living organisms(.)

66. Respiratory problems like lung damage and asthma occur when water pollution is high over a long period of time.(.)

84. Animals that active during the daytime are called nocturnal animals(.)

85. The Egyptian jerboa lives in forests(.)

86. The Egyptian jerboa has large ears which help in sensing the snakes.(.)

87. The owl depends on echo to determine the location of preys within the grass or beneath the snow(.)

88.A bat makes sounds that hit insects and then bounce back to it, so

the bat can locate them.(.)

89. The body senses and systems work separately when animals run away

from their enemies.( )

90. Some animals have abilities that humans do not have, and these abilities are called super sensory adaptations.(.)

91.The sensory receptors in the eyes receive the sound produced by a radio and send it to the brain.(.)

92. The Egyptian jerboa can jump for long distances depending on its long hind legs ( )

93. Hopping of the jerboa in zigzag patterns to run away from danger is considered as a structural adaptation

94. The spinal cord is the main control center of the body, which helps carry messages from and to the brain.

95. The heart and eyes are connected to the brain through blood vessels that transmit information in the form of electrical impulses(.)

96. The large ears of jerboa is an example of structural adaptation(.)

97.The habitat of the jerboa is similar to that of the polar bear(.)

98. The tongue is the sensory organ responsible for taste, which sends messages to the brain to be processed, then identifying the food type(.)

]99 :.The brain sends automatic signals so that we can breathe.(.)

99. Blinking when something becomes near to your eyes is an example of reflexes.(.)

100.Parts of the nervous system work together to gather and process information, then send signals(.)

101. Your fingers send signals to the brain to distinguish between smooth and rough objects(.)

102. Sensory organs are responsible for processing information.

(.)

103. The function of the digestive system is distinguishing between hot and cold things(.)

104. The nerves inside the body connect all parts of the nervous system together. (.)

105. It is impossible to design technology inspired by the adaptations of some living organisms around us( )

106. A special cane is invented to help a person who has lost the sense of hearing(.)

107. The sound pitch from a blind person's cane is too high for humans to hear. (.)

108.Echo is turned into light that a blind man can feel while holding his special cane( )

109. Bats have the ability to change echo into vibrations just as the canes of blind persons do(.)

110 Animals use technological systems as we do(.)

111.Animals communicate with each other by using different senses(.)

112.Humpback whales communicate with each other through flashing(.)

113.Humpback whales produce more than one type of songs(.)

114 .Humpback whales can sing under water(.)

115.Sense organs can decode the information that is sent by the brain. (.)

Complete

1. Weaving of blood vessels around each other in penguin's feet is considered .....adaptation, while migration of birds to certain regions is considered..... adaptation.

2. Tan-colored coat in fennec fox is considered ..... adaptation, while its panting to stay cool is considered.....adaptation

3. Among animals that live in hot environments are.....foxes, while.....fxes live in cold environments.

4. Extra-large ears allow heat to escape to cool the bodies of.....foxes,

while short ears and legs help. the..... foxes stay warm.

5. Short ears of arctic fox is considered.....adaptation,while its staying in burrows to to be warm is considered.....adaptation

6. A burrow is an excellent place for the ..... fox to stay warm at night and for the....all.fox to stay cool during the day.

7. The fur color of arctic. fox is..... in winter but turns .....in summer.

8. The chance of bull shark to find a prey is more easier in..... water than in..... water.

9. Countershading strategy of the bull shark is considered..... adaptation.

10. Eyes of chameleon move independently of each other, this is considered as

.....daptation.

11. Chameleon puffs up its body with air for defense which is considered adaptation, while its V-shaped feet is consid.....adaptation.....

[14/10, 23:45] N.S.: 12. Acacia tree defends itself by producing .....that makes leaves taste terrible, while chameleon defends itself by puffing up its.....with air

13. Kapok tree grows in Amazon rainforest habitat which has..... soil.

14. The hand-shaped leaves of kapok tree allow..... to flow through them gently.

15. The kapok tree spreads the smell of its flowers to attract..... towards it.

16.Among the plants that can survive in habitats that have lackage of water are.....,.....and.....

17. The leaves of.....tree in hot weather habitat store water, while the needle leaves of..... tree in snowy habitat prevent the loss of water.

18. The leaves of water lilies are wide in order to..... on the water surface ..... and to absorb a large amount of.....

19. Drought regions are characterized by lacking of.....so, their plants adapt by having very long .....

20. The structural adaptation of ..... tree can resist water waves, while the structural adaptation of .....tree can resist strong winds.

21. The leaves of .....plant allow it to absorb a large amount of sunlight. While the leaves of.....tree allow wind to move easily through these leaves without learning them.

the leaves of without tearing them.

22. The human body uses .....system to get nutrients from food and use.....system to get oxygen from air.

23. In order for food to become soft, the and ..... work to mix and

grind (crush) the food well.

24.In the digestive system, food becomes a soupy liquid in the ....., while it

breaks down into nutrients in.....

25. The ..... is a tube that has muscles to move the food down into the stomach,while . . . . . Is a long winding tube, its length is more than six meters.

26. The longest part of the digestive system where most digestion takes place inside it is.....

27. The small intestine receives juices from. .....and .....that help in digestion process.

28. The walls of the small intestine absorb the digested food and transfer it into

your blood stream through.....

29. In the digestive system,..... intestine absorbs the nutrients through its

wall, while..... intestine absorbs water from the undigested food.

30.Air enters and exits the human body through.....system.

31. Inside the lungs, the..... end with little air sacs known as.....

32. During inhalation, air travels down from your throat to your lungs

through.....

33. At the base of your ribs, there is a large muscle that plays an important role in respiration process known as.....

34. During inhalation process, the diaphragm contracts and move..... while during exhalation process, the diaphragm expands and moves.....

35. Humans use .....to breathe, while fish. use.....to breathe.

36.In both human and fish, ...carries oxygen gas to all the body parts.

37. Gills of fish are considered as.....daptation that allow fish to breath under water.

38. Human activities and bad habits can pollute..... ,.....of an ecosystem.

and soil of an ecosystem.

39. All living organisms including humans, animals and..... are affected of an ecosystem.

40. One of air pollutants that makes human hard to breathe is.....

41. When air pollution is very high over a long period of time, it may cause .....,.....and heart diseases to humans.

42. Starred agama lizard is ..... while frog is an.....

43.Humans, amphibians and reptiles have..... to breathe in oxygen gas from air.

44. Bull shark can respire through.....only while salamander can respire through.....and.....

45. Both humans and adult amphibians have no.....that is present in fish for respiration.

46. As the pollution rate of water in ponds and air increases, the number of amphibian.....

47. Amphibians have two ways to breathe in oxygen, one from air through..... and the other from water through.....

48.The ability of amphibians to take in oxygen gas from water through the skin, is considered.....adaptation.

49.All living organisms breathe in oxygen gas and give out.....as a waste product.

50. Pollution of.....and.....may cause a big problem on the amphibians survival.

51. The dog uses the senses of.....and.....in guarding.

52. A human can pay attention to an alarm bell in case of danger through these?e of.....

53. Dolphins have sharp sense of .....,use to locate living property organisms under water through the .....property

54. We can identify the odor of flowers using the.....sense.

55. Echo is the bouncing off..... waves when they hit a solid surface.

56. When hearing an alarm ring, the sensory receptors that are found in the..... send a message through a network of nerves to the .....which determines what to do to avoid danger.

57. When the Egyptian jerboa is in danger, it starts to run away, this action occurs in a very short time called the.....

56. Echolocation is used by some animals such as .....and.....

57. The brain is connected to a group of nerves that passes through the backbone which is known as the.....

58.Hopping of the Egyptian jerboa in zigzag patterns is considered as a..... adaptation.

59.Owls can detect the places of their preys by using the sharp senses of.....and.....

60. An owl can see everywhere by turning its..... in all directions, while a chameleon can see everywhere by moving its..... in opposite directions.

61. The presence of hair on a jerboa's feet and toes is a .....adaptation.

62.If you see a cat, you have received this information through the sensory receptors in your..... then the nerves send a signal to your..... to identify it.

63. The Egyptian jerboa and the fennec fox have an excellent sense of....., where both of them have large.....

64.The Egyptian jerboa has long..... to help it jump for long distances, and it has hair on its feet and toes to help it.....

65. The..... is the organ that sends information to the brain when you smell a perfume.

66.The spinal cord is a big .....that passes through the..... of the human body.

67. If you come near your dog, its nose sends a message through the nerves to its .....alerting it that you are coming.

68. When you touch a very hot object, your hand moves away quickly, this action is known as.....

69. When you hear a train horn..... in the ears send a message through a network of nerves to reach the.....

70. The..... is the organ that is responsible for gathering surrounding sounds, while the..... is the organ that is responsible for gathering different odors.

71. When an owl hears the sound of a prey, sensory receptors in the..... information through nerves to the .....to be processed.

72. When someone cannot hear clearly, this means that he has a problem in his..... sense.

72. Bats and the special cane of blind people are similar in using .....property to locate objects.

73.A group of..... .messages to communicate with each other.

74. Ants use their sense of ..... to communicate with each other.

75.Ants within a colony are divided into several groups such as..... ants,

.....ants and.....ants, where each group do a specific role.

76. Humpback whales communicate with each other by using the sense of.....where they sing a wide range of..... and a series of.....

77. In winter months, the songs of humpback whales have.....pitched sound because these sounds travel better through.....water.

78. In..... months, the songs of humpback whales have pitched sound, because these sounds travel better through warm water.

79.Humans can communicate with each other where ears of human detect..... energy and eyes of human detect.....energy

80. Ants are similar to the..... tree in that both of them send a smelly

messages for communication.

81.The echo that is picked up by the special cane of a blind person is turned into .....the person can feel them with his thumb.

<u>Write the scientific term of each of the following:</u>

1. A characteristic that helps living organisms to survive and reproduce in the ecosystem in which they live(.....)

2. A bird that has a thick layer of fat and dense feathers to adapt extreme cold weather(.....)

3. It covers the body of some types of bears to blend in with snow and keeps their bodies warm(.....)

4. A type of foxes that has sandy-colored fur to adapt its desert environment(.....)

5. A property that helps animals to blend in with their surrounding environment(.....)

6. A change in the body structure of a living organism to survive(.....)

7. A change in the behaviors or acts of a living organism to survive.(.....)

8.A type of foxes has a tan-colored fur(.....)

9. A way by which fennec fox cools itself like dogs(.....)

10. A type of foxes that changes its fur color between winter and summer seasons(.....)

11. A lizard that has different bright colored scales to provide camouflage in its environment and has V-shaped feet(.....)

12. A shape of feet by which a panther chameleon holds tightly to branches of trees(.....)

13.A feature in the bull shark, in which the upper surface of its body is darker than its lower surface.(.....)

1.4.A tree that grows in Southern African Savannah and it has sharp spines around its leaves(.....)

15. A structural adaptation of acacia tree that allows it to search for water(.....)

16. A structural adaptation that surrounds the leaves of acacia tree to prevent animals from eating them(.....)

17. A tree that grows in Amazon rainforest of Brazil and it has hand-shaped leaves(.....)

18. A structural adaptation that fixes the kapok tree in soggy soil and support its trunk(.....)

19.The part of the kapok tree which is supported by the buttress roots(.....)

20. A tree lives in salt water habitat and has long, strong roots to resist the water waves(.....)

21. A plant lives in wetland habitat and it has wide leaves to absorb a large amount of sunlight(.....)

22. A structural adaptation in water lilies that helps them absorb a large amount of sunlight(.....)

23. A structure that prevents the loss of water in the pine tree(.....)

24. A system that helps in breaking down food into smaller part(.....)

25. A group of organs that work together to perform a specific job. (.....)

26.A process of breaking down food into smaller parts that the body cells absorb and use to get energy and grow(.....)

27. The organ, where the digestion process begins(.....)

28.They present in the mouth and play an important role in crushing of food(.....)

29.A liquid substance in your mouth that moistens the bite of food and begins to break it down(.....)

30. The organ which receives the food from esophagus(.....)

31. An organ that has tiny blood vessels to absorb the nutrients through its walls(.....)

32. An organ through which solid wastes of digestion leave the body(.....)

33.A long muscular tube that moves the food down into the stomach (.....)

34. A process of pulling air in and pushing air out of the body(.....)

35. It allows the air to pass from the nose to the trachea(.....)

36. A tube that allows air to pass into the two lungs(.....)

37. Little air sacs surrounded by blood vessels in the respiratory system(.....)

38. A large muscle that contracts during breathing in and relaxes during breathing out(.....)

39. Structures that allow fish to breathe under water(.....)

40. A gas presents in air and water, and is very important for breathing process(.....)

41. A gas which the human and fish bodies must get rid of during exhalation process(.....)

42. A kind of pollution that is caused due to throwing waste materials into the waterways and soil(.....)

43. A kind of pollution that is caused due to the exhausts from cars and some factories(.....)

44. Species that include frogs, toads and salamanders(.....)

45. The organ through which salamanders can take in oxygen gas directly from water(.....)

46. A gas is present in water and air that living organisms breathe in during respiration(.....)

47. The type of adaptation that allows frog to take in oxygen gas from water directly through the skin(.....)

48. A respiratory organ that contains little sacs, and found in humans, frogs and cows but not in fish(.....)

49. The property that depends on the sense of hearing through which dolphins locate their preys under water(.....)

50.The organ used to recognize different colors(.....)

51. The organ used to recognize different odors(.....)

52. The sense used to differentiate between smooth and rough surfaces(.....)

53. The return back of sound waves on hitting a solid surface(.....)

54. A group of different animals that look for their preys at night(.....)

55. A desert rodent with a small body, large ears and long hind legs(.....)

56. A property by which a bat can locate its prey insects through the sound reflected from them(.....)

57. An animal that can turn its head backwards, and has a bowl-shaped face and large eyes(.....)

58. A system that controls all the body functions, and nerves are one of its parts(.....)

59. The organ responsible for processing information transmitted to it(.....)

60. An organ composed of a group of nerves located in the backbone, and sends messages from and to the brain(.....)

61. Organs include the eyes, nose, ears, tongue and skin, and they receive information from the surroundings and send it to the brain(.....)

62. A type of nerves in the sensory organs that is responsible for receiving information from the environment(.....)

63. The time taken by an organism's body to respond to different reactions(.....)

64. It delivers messages between the spinal cord and different body organs(.....)

65.The organs that receive information from the surrounding environment(.....)

66. The sensory organ that can distinguish between sharp and rough voices(.....)

67. A sense by which you can recognize the sour taste of lemon(.....)

68.. They are messages sent by the nervous system that are often so fast that you cannot realize them(.....)

78. A season in which the humpback whale produces high-pitched sound(.....)

79.A season in which the humpback whale produces low-pitched sound(.....)

80. Small living organisms that live in colonies and communicate with each other by smelly messages to perform different roles(.....)

81. A group of ants which is responsible for sending smelly messages when there is a shortage of food(.....)

82. Pitched sounds which travel through cold water better than through warm water(.....)

83. Pitched sounds which travel through warm water better than through cold water(.....)

84.Sense organ that can detect sound energy(.....)

85.Sense organ that can detect light energy(.....)

86.A living organism that can fly and depend on the echolocation propert

to get information about its surroundings in the dark(.....)

87. A simple tool (device) used by blind people to walk safely(.....)

Give reasons for:

1. The nurse ants send smelly messages to scout ants.

.....

2. The soldier ants use smells in their communication.

.....

3. The songs of humpback whales have high-pitched sounds during winter months.

.....

4. Humpback whales sing different songs.

.....

5. The echo that is picked up by the special cane of blind people is turned into vibrations.

.....

6. The blind people cannot hear the sound that emits from their special canes.

.....

7. Humans can recognize the sounds of different musical instruments.

.....

8.Animals that live in hot regions become active at night.

.....

.....

9. Owls have bowl-shaped faces.

.....

10. Bats can catch insects in the dark.

.....

11. Owl is a nocturnal animal.

.....

12 The Egyptian jerboa can jump for long distances.

.....

13. The presence of hair on the Egyptian jerboa's feet and toes.

.....

14. The Egyptian jerboa's ears play a very important role in its survival.

.....

15. The Egyptian mongoose make sounds.

.....

16. Owls can hunt during the night.

.....

17. Dogs are used in guarding.

.....

18. Dolphins can hear all kinds of sound.

.....

19. Skin of fish is different from that of frog, although both of them live in water.

.....

20. Dry seasons is very harmful for amphibians.

.....

21. Pollution of air and water can affect the survival of amphibians.

.....

22. Scientists must study how amphibians interact with their environments.

.....

23. Gills are unique structural adaptation in fish.

.....

24.Cars and factories exhausts cause breathing problems.

.....

25. Sometimes people in big cities are forced to change their lifestyle.

.....

26. The human body is made up of different systems.

.....

27. The importance of juices of liver and pancreas.

.....

28. Anus is an important organ in the digestive system.

.....

29. The inhaled air differs from the exhaled air.

.....

30. Diaphragm plays an important role in respiration process.

.....

31. Branches of acacia tree gather on the top of its trunk.

.....

32. Acacia tree has sharp spines around its leaves.

.....

33. Wind is important to acacia tree.

.....

34. Kapok tree has hand-shaped leaves.

.....

35. Kapok trees stay firmly rooted in the soggy soil although they are very tall.

.....

36. Pine tree has a triangular shape and short branches.

.....

37. Water lilies have wide floating leaves.

.....

38. Mangrove tree has long and strong roots.

39. Palm trees have thick roots and small leaves.

.....

40. Barbary fig has sharp spines.

.....

41. Fennec fox has a tan-colored coat.

.....

42. Fennec fox undergoes panting.

.....

43. Arctic fox has a thick fur coat.

.....

44. The fur of arctic fox is white during winter but it turns brown in summer.

.....

45. Burrows are excellent places for arctic and fennec foxes.

.....

46. Fennec fox has extra-large ears, while arctic fox has short ears.

.....

47. Bull sharks have less competition for finding food in fresh water.

.....

48. Panther chameleon has V-shaped feet and a long tail.

.....

49. Some desert lizards have colorful scales.

.....

50. The starred agama lizard always looking for shade areas in desert.

.....

51. The penguin's body has a thick layer of fat and dense feathers.

.....

52. The blood vessels in the penguin's feet weave around each other.

.....

53. Fennec fox has sandy-colored fur, while polar bear has a white fur.

.....

54. Some animals have the ability to make camouflage adaptation.

.....

What happens if...?

1. The warm blood vessels and cold blood vessels in the penguin's feet do not weave around each other.

.....

2. The polar bear has thin fur instead of its thick fur.

.....

3. Arctic fox has a brown coa coat during winter but it turns white during summer.

.....

4.Fennec fox has short ears.

.....

5. Sense of hearing becomes weak in foxes.

.....

6. Arctic fox has only a white coat during all seasons of the year.

.....

7. Some plants of rainforest habitat became very short.

.....

8. The length of acacia taproot doesn't exceed 3 meters downward.

.....

9. The acacia leaves are not guarded by sharp spines.

.....

10. There are no buttress roots in the kapok tree.

.....

11. The pine tree has an umbrella shape not a triangle shape.

.....

12. Water lily has narrow leaves instead of wide leaves.

.....

13. Palm tree has thin roots and large leaves.

.....

14. The small intestine is removed from the human body.

.....

15. The nutrients absorbed by the walls of small intestine enter the tiny blood vessels.

.....

16. The diaphragm moves downward during inhalation.

.....

17. The diaphragm moves upward during exhalation.

.....

18. Human activities and bad habits increases.

.....

19. The exhausts from cars and factories increase in big cities.

.....

20. Water pollution increases. (for human and fish).

.....

21. Pollution level increases in the natural habitat of amphibians.

.....

22. The ecosystem of amphibians is containing clean air and water.

.....

23. Amphibians don't have lungs and breathe only"

.....

24. The number of predators of amphibians increases.

.....

25. Salamanders have lungs only to respire.

.....

26. Skin of frogs becomes dry.

.....

27.The sound waves produced by a dolphin when they hit an object under water.

.....

28. Bats lose the ability to hear by using echolocation property.

.....

29. Owls cannot turn their heads in all directions.

.....

30. Your hand touches the spines of a barbary fig plant.

.....

31. The Egyptian jerboa hears a snake moves towards it.

.....

.....

32. The spinal cord became absent from the components of the nervous system.

.....

.....

33. Sensory receptors related to the eyes stopped sending messages to the brain.

.....

.....

34. The smell sense of ants becomes weak.

.....

.....

35. The amount of food in the ants colony decreases.

.....

.....

36. There is a danger near to an ants colony.

.....

.....

37. High-pitched sound that is produced by the blind person's cane hits an object.

.....

.....

38. Bats cannot use echolocation property.

.....

.....

39.There is a wall in front of a blind person uses his special cane.

.....

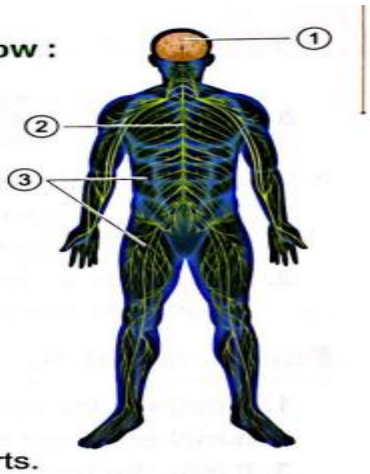
.....

40. The hearing sense of humpback whales becomes weak.

.....

.....

Look at the opposite figure, then answer the questions below :



a. What does the figure represent ?

.....

b. Label the figure :

① ..... ② ..... ③ .....

c. Complete :

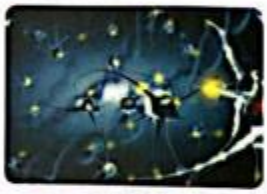
1. Number (.....) is found inside the backbone of the human body.
2. Number (.....) represents the main control center in the human body.
3. Number (.....) spreads all around the human body parts.

You have some pictures of different parts of the human body. Write down the organ number in front of the system to which it belongs in the following table :


①


②


③


④


⑤


⑥

System	Organ
1. Digestive system :	.....
2. Respiratory system :	.....
3. Nervous system :	.....

Look at the following figures, then answer the questions below : *(Giza 2022)*

Figure (a) Figure (b)

1. Complete :

a. The surface in figure (a) is .....

- Because .....

b. The surface in figure (b) is .....

- Because .....

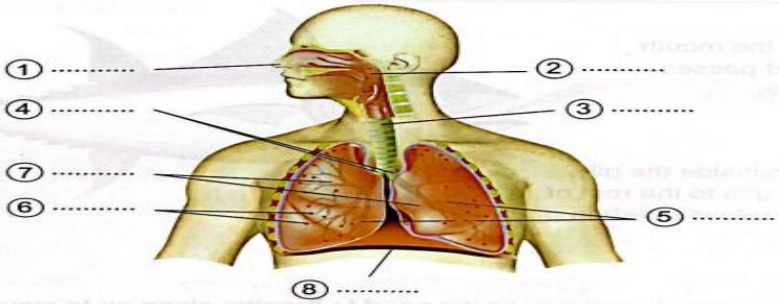
c. In the previous two figures, the falling and reflected rays show that light travels in ..... lines.

2. Choose :

The surface in figure (a) may be .....

a. plastic. b. wood. c. mirror. d. cloth.

3 Look at the following figure which represents the human respiratory system, then label it :



October revision2023-2024

Concept 1 Lesson (1) Adaptation and survival

How living organisms protect itself from extreme heat of the sun?

Desert lizard: by finding shaded area.

Palm leaves: covered with waxy layer.

Human being: by using umbrella and light clothes.

These different ways for protection known as:

Adaptation: It is a way that helps the living organism to survive in its environment.

G.R: the importance of adaptation for living organisms

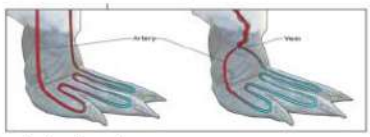
To survive and reproduce.

Climate is considered one reason for adaptation of penguins to survive in cold environment:

Penguins

1-Penguins are cold adapted for living in Antarctica where it is very cold.

2-has fat layer and thick feather on his body to keep its body warm in the freezing cold.



3- How penguin keeps its toes feet from freezing?

The warm blood vessels from body weave around the cold blood vessels from feet to heat up.

Camouflage: It is an example of adaptation in which some animals hide from predators or preys by blending with surrounding environment.

Ways of adaptation in some living organisms:

1. **Polar bear:**

It has thick white fur to:

a. Keep warm.

b. Blend with snow to catch its prey

2.Brown or black bear:

It has dark brown fur to:

a. Help it to hide between trees during catching its prey

3.Caracal:) It is a mammal animal .

It is a carnivorous animal eats meat :
a.It has golden fur, to help it hide in desert.

4.Fennec fox:

It is a small foxes:

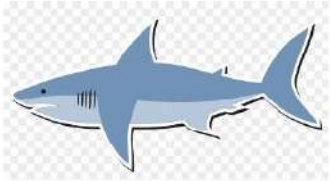
a. It has large ears.

b. It has golden fur, to help it hide in desert.

5. Lizards:

have colorful scales that help them to hide between coloured rocks in the desert to:
a. hides from enemies.
b. catch preys.
In very high temperature, lizards use burrows and go to shady places as a means of adapting to the desert heat.

6. Bull shark:



It can live in <u>fresh and salt</u> water.
It has countershading
This helps the animal to blend into the water and catch their preys

Lesson (2) Types of Adaptations

Types of adaptation:

Structural adaptation (physical adaptation)	- Behavioral adaptation
It is a change in the structure of animal body to adapt its environment The blood vessels in the penguin feet The thick fur of the polar bear	It is a change in the behaviors (acts) of animals groups to adapt its environment Migration of some animals towards certain region Desert lizard looks for shade in hot sun

Adaptation of foxes to survive in their environments:

Fennec fox	Arctic fox
habitat	
It lives in **hot desert**	It lives in tundra
Structural adaptation	
It has **tan colored coat** To hide in sandy environment To protect from the hot sun	It has **thick fur coat** To keep body warm in cold climate - It has **white fur coat** in winter – **brown** in summer To sneak up on prey in any season
It has **extra-large ears** To lose heat to cool its body	It has **short ears and legs** **To help it stays warm**
It has a **special shape of ears** To allow good hearing for hunts	It has a **special shape of ears** To allow good hearing for hunts
Behavioral adaptation	
It pants like dogs To cool its body	
It lives in **burrows** To stay cool in sunny days	It lives in **burrows** To stay warm at night
It eats different kinds of food Bec. hard to find food in desert	It eats different kinds of food Bec. hard to find food in tundra

Adaptation of foxes to survive in their environments:

Lizards are from **reptiles** – Bodies of reptiles (lizards) covered with **scales.**

Bull shark	**Panther chameleon (lizard)**
habitat	
It lives in **fresh and salty water** **Unique advantage**	It lives in **tropical rainforest**
Structural adaptation	
It has **dark back and white belly** To sneak up on prey by **countershading strategy**	It has **bright colored scales** To camouflage with surrounding environment
It has **sharp teeth** **To tear prey's flesh**	Its **eyes move in opposite directions** One eye search food The other eye to avoid danger
	It has very long sticky tongue To hunt insects for feeding
	It has V-shaped feet and tail like a hand To hold tightly the branches of tree
Behavioral adaptation	
It can hunt in salty and fresh water So, It feeds on different types of food	**In danger it scare its attacker by:** - It puffs up its body with air. - It opens its mouth wide. - It changes scales color.
It hunts in the day and the night So, Its prey can't predict hunt time	

Lesson 3 : Plant adaptation

- **plants have the ability to adapt in their environment**

From this environment :

Savannah forest in Africa

Lack of water – drought climate - Grassland soil has mild temperature

Acacia tree (umbrella-shaped tree)

Amazon rainforest of Brazil

Plenty of water - Soggy soil (wet mud soil)

Kapok tree (umbrella-shaped tree)

Adaptation of two terrific trees to survive in their environment:

Acacia tree:

Habitat: It grows in Savannah Forest in Africa

Structural adaptation

It has very long root (taproot) To search for water in deep soil

It has very long trunk Most animals can't feed on its leaves except giraffe

Acacia tree store water in its trunk It has tiny leaves on its top To hold water to make food

It has sharp spines leaves To protect from hungry animals

Behavioral adaptation

Acacia tree can defend itself: It produces a poison when animal eat its leaves. (bad taste) - Send smelly message to near tree.

Kapok tree

It grows in Amazon rainforest of Brazil

Structural adaptation

It has large wide roots (buttress roots) To hold the tree in the soggy soil

The roots grow up around the trunk To hold the tree in the soggy soil.

It has hand-shaped leaves with narrow parts to allow wind move gently without tearing (cutting)

Behavioral adaptation

It sends delicious smelling messages to invite bats by wind

Mangrove tree:

Structural adaptations:

It lives in salt water – it has long and strong roots to resist the waves

Water lily:

It lives in wetland – it has wide leaves float on water to absorb sunlight.

3- Palm tree:

It lives in desert – it has thick roots and small leaves to resist strong winds.

4- Pine tree: It lives in snow – it has triangle tree and short branches to allow snow to slides over So, don't break. - It has needle leaves prevent plant from lose of water.

Lesson (4) Digestive system

* The body of living organism consists of systems as digestive - respiratory – nervous

Each system consists of organs as :

two lungs – heart – stomach – brain. Note: Digestive and respiratory system are working together to get energy from food and breathing.

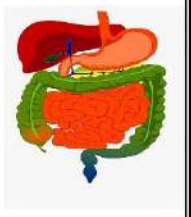
- The body gets nutrients from food to get energy.
- The body needs energy: To do activities as (walking – talking – sleeping) To do body functions as (heart beating – breathing – thinking) Human digestive system
- To get nutrients from food, the food must be digested.

Digestive system:

-A system breaks food into small parts that a body uses to get energy.

Digestion process: A process of breaks food into small parts that a body uses to get energy.

The structure of digestive system: Mouth – Esophagus – Stomach – Small intestine – Large intestine.



Notes: Digestive system starts with mouth and ends with anus.

1- Mouth:

Digestion of food begins in the mouth.

Mouth contains: Teeth – Tongue – Saliva (liquid substance in mouth)

- Function of teeth: It breaks and crush food during chewing.
- Function of tongue: It mixes food with saliva in mouth.
- Function of saliva: It facilitate the swallowing of food – digest starch into sugar.

2- Esophagus:

A long muscular tube. • Function of esophagus: It moves the food down into the stomach.

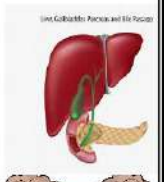
3- Stomach: A muscular organ.

- Function of stomach: It mixes food with stomach acid to get soupy liquid.

4- Small intestine:

A long coiling tube with length 6 meter.

- Food is broken into simple nutrients.
- The blood carry nutrients to all body parts.
- Function of small intestine: complete digestion of food – absorb nutrients



5- Pancreas and liver: secrete juice in small intestine to help in breaks food into nutrients.

Large intestine: A tube starts from end of small intestine and ends with anus.

- **Function of large intestine: It absorb water from wastes to become solid wastes come out through anus.**

What happen : When one organ of digestive system is absent. ?

The system cant performs its function properly.

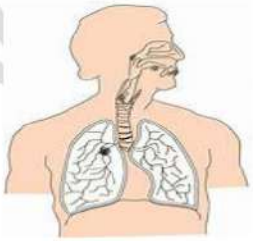
How to keep digestive system healthy?

1-Chew the food well

2-Don't eat much fast meals.

3-Drink a lot amount of water.

Respiratory System



A system is responsible for breathing.

Respiratory system:

supply the body with oxygen gas and gets rid of carbon dioxide gas.

Respiration process:

A process by which air carry oxygen gas into the body and get rid of air carry carbon dioxide gas out of the body.

Human respiratory system consists of:

Nose – Throat – Trachea – Two lungs – Diaphragm. • During breathing air pass from nose, throat, trachea into two lungs (like 2 balloons).

- **The trachea branched into two bronchi and bronchioles.**
- **Air sacs (Alveoli) in lungs surround with blood vessels to extract oxygen gas from air.**

- **The blood carry oxygen gas to all body parts.**
- **Our bodies need oxygen gas to do their functions.**
- **Carbon dioxide is a harm waste product we must expel out in exhalation.**

Diaphragm: A large muscle directs inhalation and exhalation process.

- **Respiration includes:**

Inhalation and Exhalation process.

In inhalation: diaphragm contracts down to enter oxygen gas –

Chest size increase.

In exhalation: diaphragm relaxes upward to expel carbon dioxide out – Chest size decrease.

How to keep respiratory system healthy ?

-Avoid smoking

– Eat fruits as orange (vitamin C)

– breathe clean air.

Lesson (5) How Fish Breathe

- Fish lives in water environment.
- Human have lungs to breathe in air, while fish have gills to breathe under water.
- Oxygen gas is very important for breathing (inhalation)

Adaptation of fish to breathe under water :

- Fish have gills to allow it to live and breathe under water.
- Gills are found on sides of a fish's head.
- Blood vessels carry oxygen gas to all body parts (In human and fish).
- Gills of fish are considered as unique structural adaptation that allow fish to live and breathe under water.
- Water pollution affects fish healthy.

Human Change the ecosystem

- There are 2 types of changes:

Natural changes of ecosystem

usually, slow change and done by nature organisms can adapt this change.

Human activity changes of ecosystem

usually, rapid change and done by human. Organisms can't adapt this change cause move, disappear, die or extinct of organisms.

Lesson (6) Amphibians

Amphibians:

they are small animals can live in moist environments (rainforest – stream - ponds)
Examples of amphibians: Frogs – Toads – Salamanders.

• **Amphibians can breathe using lungs on land (like human) But they can also extract oxygen from water using skin organ. (Structural adaptation)**

• **Amphibians respire through lungs and skin.**

Factors cause extinction of amphibians:

1- **Water and air pollution.**
2- **Destroying natural habitat.**
3- **Viruses in water.**

To protect amphibians must clean air and water as:

1- **Avoid throwing waste materials in water.**
2- **Dispose of chemicals in a correct way to avoid water pollution**

Concept 2 Lesson (1) Senses

• **All living organisms receive stimuli from environment and makes respond to them.**

• **Stimuli as cold – hot – smooth – rough**

• **The five senses: Hearing – Sight – Taste – Smell – Touch**

• **The five sense organs:**

-Ears for hearing

- Eyes for sight

- Tongue for taste

- Nose for smell

- Hand – skin for touch

• **Humans can listen to music by sense of hearing by ears organ.**

• **Owls have extra sense of hearing and sight to find their preys in dark**

. • Dogs have sharp sense of hearing and smell for guarding. Dogs have sense of smell and sight for recognize friends by scent.

• **Fox and deer have sense of hearing and sight to avoid danger.**

• **Chameleon has sense of sight and taste for searching food.**

• **Monkey has all five senses to identifying things.**

• **The Egyptian mongoose makes sounds for moving or searching food.**

Dolphin Super Senses **Dolphins have sharp sense of Hearing to hear all sound tones.**

- **Super senses of dolphins help them to: Survive – search of food – protect them under water.**
- **Dolphins use a property known as " Echolocation " that depend on " Echo " To locate their preys and objects in water.**
- **Echo: is reflection (bouncing off) of sound waves back from surface to its source.**

Lesson (2) Super Sensory Organs Nocturnal Animals:

A group of different animals that look for their preys at night.

- **Why animals active at night: To look for food – To hide from preys.**

Dolphin Super Senses **Dolphins have sharp sense of Hearing to hear all sound tones.**

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is reflection (bouncing off) of sound waves back from surface to its source.

Lesson (2) Super Sensory Organs

Nocturnal Animals: A group of different animals that look for their preys at night.

- **Why animals active at night: To look for food – To hide from preys.**
- **Super Sensory Adaptation of Nocturnal Animals**

1- **Snake Super Sensory Adaptation: Snake is from reptiles. Snake has ability of heat sense by special part in their face. <u>to locate their preys</u>.**
2- **Bat Super Sensory Adaptation: Bat is from flying nocturnal animals. Bat use Echolocation property using sound waves by hearing sense. (Like Dolphins) To locate their preys (insects) using Echo.**
3- **Owl Super Sensory Adaptation: Owl is from flying nocturnal animals. Owl has extra eyesight and strong hearing sense Owl has bowl-shaped face can detect distant sounds and quiet movements. The Nervous system**

The nervous system consists of:

1- Brain: the main control center of the body.
2- Spinal cord: carry messages from brain to body and from body to brain. Spinal cord passes through the backbone.
4- Nerves: carry messages from brain and spinal cord to body and vice versa. Nerves of eyes and heart connect directly to the brain.

Sensory organs:

receive information from environment by sensory receptors.

Sensory receptors:

nerves found in sensory organs receive information from environment.

Lesson (3) Sensing of the Environment

- What when touch spines of cactus plant?

Withdraw hand fast in one second.

Egyptian jerboa:

is a desert rodent with very large ears (like fennec fox) and small eyes.

Egyptian jerboa Adaptation:

it has long hind legs to help it jump long distances.

- A jerboa's feet and toes have hair to help it catch sand is Structural adaptation.
- Hopping a jerboa in zigzag paths to run away from danger is Behavioral adaptation.
- A jerboa has large ears use hearing sense it can hear snake. (like fennec fox) How jerboa's body work together to avoid danger?

Lesson (4) Reaction time and Response

Reaction time:

-is the period from sensing danger to being away from it.

- The shorter reaction time to a danger, the greater chance of survival.

-Nerves links between sense organs and the brain.

- The response of eye nerves is faster than of ear nerves.
- Examples:

When you smell bad odour, nerves in nose send a signal to the brain to make respond. When you touch hot object, nerves in hand send a signal to the brain to move hand away.

Lesson (5) How the Nervous System Works

Function of nervous system:

1-Collecting information inside and outside the body then send to the brain through nerves.

2-The brain processed this information and sends a response.

3-Nerves transmit information from sensory organs to the brain in form of electric impulses.

Role of sensory organs in processing information:

1-The sensory organs (eyes – ears – skin) gathering information by sensory receptors.

2- The nervous system (nerves) sends information from sensory organs to the brain to be processed.

Note:

-The components of nervous system are connected to nerves to transmit information (messages) throughout the body parts.

-Sound waves:

A type of waves transmitted from ears to the brain.

Reflex action:

A type of messages transmitted as so fast. Examples of reflex action:

1-You blink your eyes when something comes near it.

2-Your hand moves away quickly when touch a very hot object (plant spines).

Concept 3 Light and Sight

Nervous system

A system that send information from sense organs to the brain to process it.

Nervous system: **A system that works with eyes for seeing objects.**

The eye: is the organ of sight.

Humans: need light to see objects.

Night vision goggle:

A tool used by human can depend on to see at dark.

Nocturnal animals

Animals have night vision to hunt at night such as:

Fishing cat	**-A wild cat that have glow eyes to hunt at night by sight sense. -has glow eyes because it has a mirror-like membrane on back of eyes that bounce off (reflect) light (Structural Adaptation)**	
Tarsier monkey:	**has huge eyes to hunt at night by sight sense.**	

Note:

- **Cat eyes are structural adaptation but activation of animals at night is behavioral adaptation.**

Sources of light: **Objects that gives off (emits) their own light.**

Examples of light sources: The sun – Electric lamps – candles – flash night – fire. The moon

mirror not a source of light as they reflect (bounce off) light.

- **Human can see objects that give off light or reflect light.**
- **The eye can see when light fall on object and bounce back (reflect) to the eye.**

model (1)

1-choose the correct answer :-

1-both of spinal cord an nerves are parts of the.....system

a. digestive. b. respiratory . c. circulatory. d. nervous.

2. we use the sense of .....to know the hotness or coldness of water cup

a. sight b- touch c- smell d- hearing

3. the bull shark can live in .....

a. fresh water . b. salty water c. fresh and salty. d. revisers and mud

4. Animals that become active at night are called

a. diurnal animals. **b. nocturnal animals.**

C. extinct animals. **d. endangered animals**

5. from the herbivore adaptation in acacia tree is .....

a. it has a very tall trunk **b. it has a sharp spines .**

c. it produce poisonous to make a bad tasty leaves . **d. it has a very long roots b**

2-What happens if?

1. Barbary plant has no spines.

.....

2. There is no small intestine in the human body.

.....

3- Put (√) or (x):

1. The desert lizard blend in with large green trees, to hide from its enemies. ( )

2. When the snow melts in polar regions, the thick fur coat of arctic foxes turns black.( )

3. Sunlight transfers kapok tree's fluffy yellow seeds across the rainforest. ( )

4-. The spinal cord is the main control center of the body, which carries( )

-4- Give reasons for :-

1-The human body consists of different systems.

.....

2-Gills is a unique structural adaptations in fish.

.....

3-The fennec fox has a tan-colored coat.

.....

model (2)

-choose the correct answer :-

1-One of the behavioral adaptations that help the animal protect itself from enemies

(A)– blend in **(B) - extinction**

(C) – immigration **(D) - reproduction**

2-All the following are components of the nervous system except.....

(A)Spinal cord **(B) heart**

(C) nerves **(D) brain**

3-Kapok tree has .....-shaped leaves.

a. foot **b. hand** **c. V** **(D)- U**

4-..... covering the body arctic fox

(A) - heavy hair **(B) - heavy skin**

(C) - thick fur **(D) - many feathers**

2-Write the scientific term of each of the following:

1. A group of different animals that look for their preys at night. (.....)

2-A property related to the bouncing back of sound to the dolphin when the sound waves hit objects under water. (.....)

3. **A gas that is present in water and air, and supply amphibians with energy.(.....).**
4. **The organ where saliva moistens the food. (.....)**

3-Look at the path of the light rays in pictures (A) - (B). Determine which of the two objects is opaque and which is transparent

-object(A) is .....

-object (B) is ..... .

(B) (A)

Model (3)

-choose the correct answer :-

1. stomach lie between esophagus and .....

a. teeth . b. large intestine c. small intestine d. liver.

2. camouflage means that the animal ....

a. can be seen easily . b. cant be seen easily . C. easy to be seen by preys. d. easy to be seen by predators

3- One of the animals that may eat acacia leaves, is .....

a. rat. b. caracal. c. penguin. d. giraffe.

4- All the following properties protect acacia leaves from being eaten by animals except that

a. they are high enough. b. they are guarded by sharp spines.

c. they are brightly colored. d. they produce a poison.

5-. The color of fur of fennec foxes protects them from

a. wind. b. rains. c. hot Sun. d. cold weather.

6- Fennec foxes have a tan-colored coat that provides ..... in their environments.

a. camouflage b. respiration c. panting d. communication

2- Complete the following sentences

1. fish breath .....gas which dissolved in water

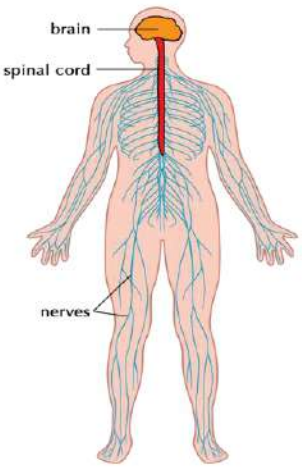
2- Among the plants that can survive in habitats that have lackage of water are..... and .....

3- The wall of the ..... absorbs the digested food into your bloodstream

4-.....animal can live in hot environment while .....animal can live in cold environment

---

3- Look at the opposite fig then answer the following questions:



1- **What is the name of this system ?**

.....

2- **What is the name of the part that extend inside the backbone?**

.....

3- **Which part is considered the main control center of the body?**

.....

(Answers) Model (1)

1-choose the correct answer :-

1 -both of spinal cord an nerves are parts of the.....system

a. digestive. b. respiratory . c. circulatory. d. nervous.

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5. from the herbivore adaptation in acacia tree is .....

a. it has a very tall trunk **b. it has a sharp spines .**

c. it produce poisonous to make a bad tasty leaves. **d. it has a very long roots b**

2What happens if ... ?

1. **Barbary plant has no spines.**

Most of animals can eat it

2. **There is no small intestine in the human body.**

Body can't digest and absorb food

3- Put (√) or (x): •

1. **The desert lizard blend in with large green trees, to hide from its enemies. x**
2. **When the snow melts in polar regions, the thick fur coat of arctic foxes turns black.(√)**
3. **Sunlight transfers kapok tree's fluffy yellow seeds across the rainforest. (√)**
4. **The spinal cord is the main control center of the body, which carries(x)**

-3- Give reasons for :-

1-The human body consists of different systems.

Bec they work together to do all vital activities

2-Gills is a unique structural adaptations in fish.

Bec. Gills allow fish to take oxygen from water and release carbon dioxide

3-The fennec fox has a tan-colored coat.

To escape from its enemies

Model (2) answer

-choose the correct answer :-

1-One of the behavioral adaptations that help the animal protect itself from enemies

(A) blend in **(B) extinction**

(C) immigration **(D) reproduction**

2-All the following are components of the nervous system except.....

(A)Spinal cord **(B) heart**

(C) nerves **(D) brain**

3-Kapok tree has .....-shaped leaves.

a. foot **b. hand** **c. V** **(D)- U**

4-..... covering the body arctic fox

(A) - heavy hair **(B) - heavy skin**

(C) - thick fur **(D) - many feathers**

2-Write the scientific term of each of the following:

1. A group of different animals that look for their preys at night. (Nocturnal Animals)

2-A property related to the bouncing back of sound to the dolphin when the sound waves hit objects under water. (echolocation)

3. A gas that is present in water and air, and supply amphibians with energy.(oxygen).

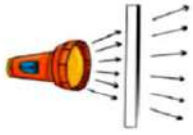
4. The organ where saliva moistens the food. (Mouth)

3-Look at the path of the light rays in pictures (A) - (B). Determine which of the two objects is opaque and which is transparent

-object(A) is transparent

-object (B) is opaque

(B)



(A)

Model (4)answer

-choose the correct answer :-

1. .....organ absorb water from digested food

a. stomach **b. small intestine.**

c. large intestine . **d. esophagus**

2. All the following are organs in the digestive system except.....

a. mouth. **b. nose** **. c. stomach.** **d. esophagus.**

3-. Nocturnal animal means that the animal .....

a. It can be seen among its surrounding.

b. is hard to see at daylight **c. is easily to see at night .**

d. can be seen easily by its predators.

4- The presence of a thick white fur is an adaptation in .....

a. starred agama. **b. polar bear.** **c. fennec fox.** **d. forest bear.**

5. Fennec foxes and arctic foxes live in burrows, this belongs to ..... adaptation.

a. only structural **b. only behavioral** **c. both structural and behavioral**

d. neither structural nor behavioral

-3- Give reasons for :-

1-Human has respiratory system

To get oxygen which is needed to get energy from burning food

2-Cars and factories exhaust cause breathing problems.

Bec. Air pollution makes the human hard to breath

3-Golden frog is an endangered species.

due to water and air pollution – destroying its natural habitat

4-The Egyptian mongoose make sounds.

To communicate with each other's

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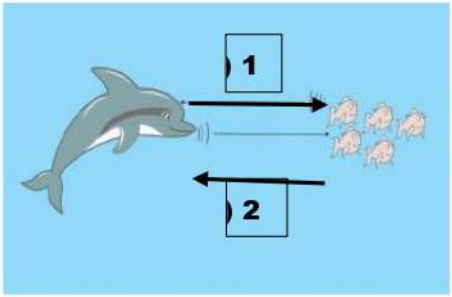
3) Look at the following photos, then complete the following



1- arrow represents sound waves produced by dolphin

2- arrow number (2) represents the echo bounced back to the dolphin

4- dolphin uses this property to locate objects and living organisms under water

4- the sense used by dolphin to do this property is the hearing

Model (5)answer

-choose the correct answer :-

1-. Starred agama and salamanders, ...

a. both are reptiles. **b. both are amphibians.**

c. the first is reptile, while the second is amphibian.

d. the first is amphibian, while the second is reptile.

2. The senses upon which you depend to hold a small radio playing at low volume in a dark room are .....

a. hearing and smell. **b. touch and taste.**

C. smell and taste. **d. hearing and touch.**

3-. Which of the following senses we use during watching a film on the T.V? .

a. Sight and taste. **b. Sight and smell.**

c. Hearing and touch. **d. Sight and hearing.**

4-. If amphibians have gills not lungs and cannot respire through skin, then .....

a. they cannot live outside water. **b. they can live outside water.**

c. they cannot live underwater. **d. they can live in desert landscape.**

-3- Give reasons for :-

1-The starred agama lizard always looking for shade areas in desert.

To stay away from the hotness of sun

2-Burrow is an excellent place for arctic and fennec foxe

› to stay warm at night

Animal (1)

Animal (2)

10 Look at the following photos, then choose the correct answer :

1. The sharpest senses that animal (1) has are ...

a. touch and smell. **b. smell and hearing.** **c. taste and sight.** **d. hearing and taste.**

2. Animal (1) uses one or both of these senses in each of the following situations except .....

a. identifying friends. **b. identifying food.** **c. identifying strangers.** **d. tasting food.**

3. The sharpest sense that animal (2) has is .....

a. hearing. **b. taste.** **c. touch.** **d. smell.**

4. Animal (2) uses its super sense in each of the following situations except ...

a. locating objects under water. **b. avoiding danger.**

c. detecting smell of living organisms under water. **d. locating preys under water.**

Model (6)

-choose the correct answer :-

1-. Fennec fox and caracal have..... that help them blend in with desert landscape.

a. colorful scales **b. thick white fur**

C. sandy-colored feathers **d. sandy-colored fur**

2. Acacia tree trunk and camel hump,

a. both store water. **b. both store fat.**

c. the first stores fat, and the second stores water.

d. the first stores water, and the second stores fat.

3. Crushing the food in your mouth is a function of .....

a. stomach. **b. tongue.** **C. saliva.** **d. teeth.**

4-. Starred agama and salamanders, ...

a. both are reptiles. **b. both are amphibians.**

c. the first is reptile, while the second is amphibian.

d. the first is amphibian, while the second is reptile.

2- Give reasons for :- **1. Animals that live in hot regions become active at night.**

To avoid high temperature

2-Dogs are used in guarding.

Because they can see in dark depends on the sense of sight

3-Starred agama and golden frog are two different species.

Bec. Agma lizard from reptiles while golden frog from amphibians

3- Look at the following two pictures, then answer the questions [by writing habitat (A) or habitat (B)] :

Habitat (A)

Habitat (B)

1. Starred agama lizard and fennec fox live in desert(A)

2. We can find panther chameleon in Tropical rainforest (b)

3. Amphibians cannot live in desert (a)

4. Yellow body coats is most common in desert(A)

5. Dry seasons is more dangerous for Tropical rainforest (B)

6. Cutting down forest usually occurs in (B)

7. The suitable ecosystem for barbary fig is (B)

8. Caracals can live in (A)

9. Arctic foxes cannot be found in (A&B)

10. Kapok trees can grow in (B)

Model (4)

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3) Look at the following photos, then complete the following

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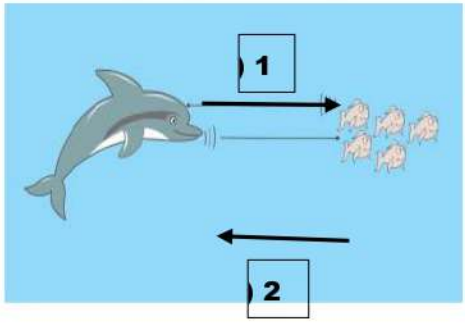
2- arrow number (2) represents .....

3- dolphin uses this property to .....

4- the sense used by dolphin to do this property is .....



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……

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7. The suitable ecosystem for barbary fig is …..

8. Caracals can live in ……

9. Arctic foxes cannot be found in ……

10. Kapok trees can grow in ……

Model (3)

-choose the correct answer :-

1. stomach lie between esophagus and .....

a. teeth . b. large intestine c. small intestine d. liver.

2. camouflage means that the animal ....

a. can be seen easily . b. can't be seen easily . C. easy to be seen by preys. d. easy to be seen by predators

2- One of the animals that may eat acacia leaves, is .....

a. rat. b. caracal. c. penguin. d. giraffe.

3- All the following properties protect acacia leaves from being eaten by animals except that

a. they are high enough. b. they are guarded by sharp spines.

c. they are brightly colored. d. they produce a poison.

4-. The color of fur of fennec foxes protects them from....

a. wind. b. rains. c. hot Sun. d. cold weather.

5- Fennec foxes have a tan-colored coat that provides ..... in their environments.

a. camouflage b. respiration c. panting d. communication

2- Complete the following sentences : •

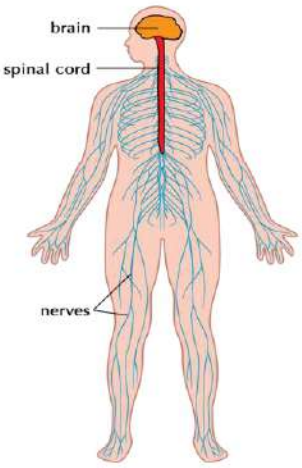
1. fish breath oxygen gas which dissolved in water

2- Among the plants that can survive in habitats that have lackage of water are tiny leaves and long roots

3- The wall of the small intestine absorbs the digested food into your bloodstream through

4-In both human and fish, blood carry oxygen gas to all parts of the body.

3- Look at the opposite fig then answer the following questions:



1- **What is the name of this system ?**

Nervous system

2- **What is the name of the part that extend inside the backbone?**

Spinal cord

3- **Which part is considered the main control center of the body?**

The brain

september exam

Science exam

Grade 4

Question 1: put true or false

1- fennec fox , penguin and Caracal are live in desert ( )

2- the brown fur of polar bear helps it to blend in with snow ( )

3- Arctic fox live in burrow at night ( )

4- bull shark live in Salt water only ( )

5- panting is considered a structural adaptation ( )

Question 2:

put structural adaptation or behavioral adaptation for each of the following

1- bull shark can hunt in salt water and fresh water

2- black bear has dark fur

3- Acacia tree used wind to send messages

4- blood vessels in the penguin feet

5- change color of arctic fox during summer and winter

Question 3: choose

1- the trunk of acacia tree store .....

(oil - fat - water - milk)

2- the presence of thick white fur is an adaptation in.....

(starred agama lizard - polar bear - fennec fox)

3- Panther chameleon has .....

(claws - teeth - colorful scales)

4- it's difficult for rainforest plants to get.....

(water - air - sunlight)

5- adaptation helpsthe living organism in all the following except.....

(survival - reproduction - death)

Question 4: complete the following

1- palm tree has ..... to fix them against strong wind

2- penguin's body is covered by.....and.....

3- from the structural adaptation of Panther chameleon is .....and.....

4- for defense, Panther chameleon.....,.....and.....
.....

5- caracal has sandy colored fur to.....